



# THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-597, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders.

ISSUE 597 AUGUST 2002



## WHEELED VEHICLES

M1074/M1075 PLS Alternator  
HMMVV Fuel Tank Access Cover  
FMTV D-ring Lubing  
Vehicle Rear Reflective Decals  
Bulk Wire NSNs  
M870/M870A1 Semitrailer Decking  
U.S. Army Petroleum Center



## COMBAT VEHICLES

M1-Series Tanks Mine Clearing Blade PM  
M1-Series Tanks Transmission Filling  
M2/M3, MLRS Track Tension Tips  
M88A1 Recovery Vehicle Hoisting Beam  
M104 Wolverine Fire Extinguisher Valve  
M109A2-A5, M992A2 Shocks, Torsion Bars  
M109A6 Paladin Signal Flare Bracket  
Canned compressed air



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Avenger ECU/PPU Maintenance



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M60 to M249 Tripod Conversion  
Bench Stock Organizer

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You are invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems and questions or comments on material published in PS.

Just write to:

MSG Half-Mast  
PS, the Preventive Maintenance Monthly  
USAMC LOGSA (AMXLS-LP)  
5307 Sparkman Circle  
Redstone Arsenal, AL 35898-5000

Or e-mail to:

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Internet address:

<http://www.logsa.army.mil/psmag/pshome.html>

By order of the Secretary of the Army:

**ERIC K. SHINSEKI**

General, United States Army Chief of Staff

Official:

*Joel B. Hudson*  
**JOEL B. HUDSON**

Administrative Assistant to the Secretary of the Army

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# AIR-DRY CAMOUFLAGE SCREENS AFTER CLEANING...



...OR ALL THEY'LL HIDE IS  
**MILDEW!**

Issue 597

# PS

August  
2002

## THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-597

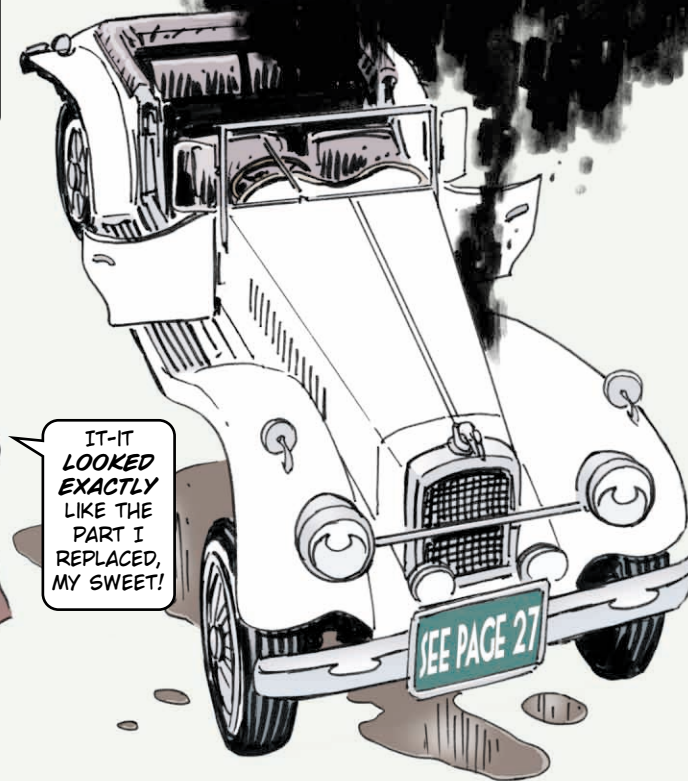
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Distribution is  
Unlimited

ARE YOU *SURE*  
YOU DIDN'T USE  
AN *OFF-THE-  
SHELF* PART,  
MY DARLING  
TREVOR?













IT-IT  
*LOOKED  
EXACTLY*  
LIKE THE  
PART I  
REPLACED,  
MY SWEET!

K. JOE  
KUBER



[illegible]

<div>  <div> <b>THE PREVENTIVE MAINTENANCE MONTHLY</b> </div> </div>		TB 43-PS-597, The Preventive Maintenance Monthly, is an official publication of the Department of the Army, providing information for all soldiers assigned to combat and combat support units and all soldiers with unit maintenance and supply duties. All information published has been reviewed and approved by the agency responsible for the equipment, publication or policy discussed. Application of the information is optional with the user. Masculine pronouns may refer to both genders.	
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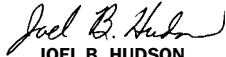
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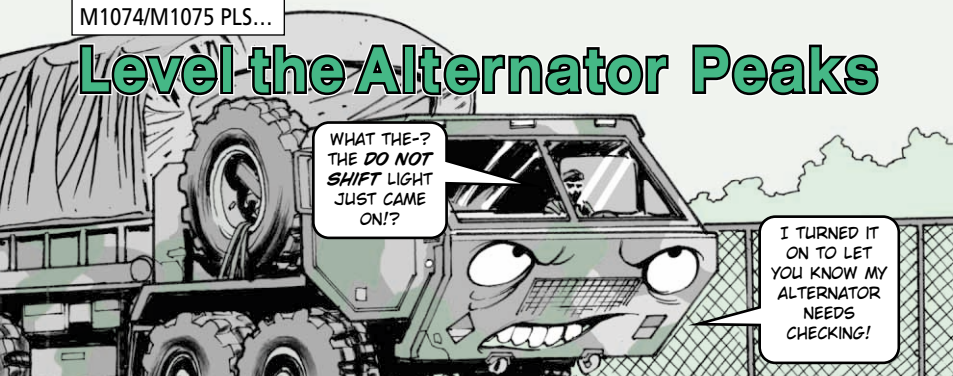
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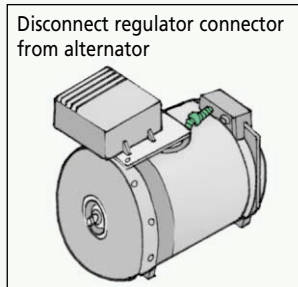
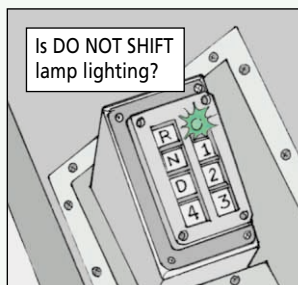
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## Level the Alternator Peaks



Some PLS trucks are still having problems with the transmission not shifting or the DO NOT SHIFT lamp lighting up. Alternator voltage peaks are probably the cause.

Some PLS trucks, built between Aug 97 and Jun 99 with serial numbers 63479 through 66375, are experiencing voltage peaks on the 200-amp alternator. The peaks show up as DO NOT SHIFT lights on the dashboard, or even as a transmission that won't shift after the engine is started.



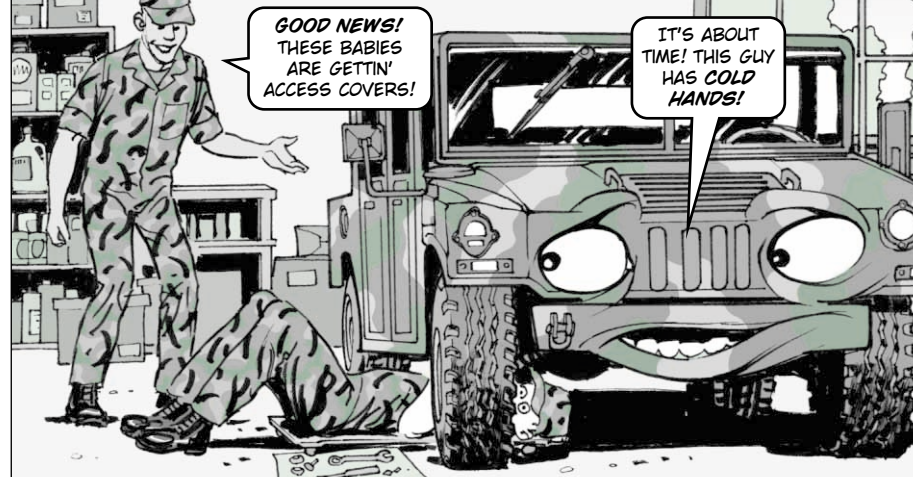
1. Disconnect the electrical connector from the voltage regulator mounted on the alternator.
2. Start the engine. (Don't operate the truck for too long with the regulator disconnected or you'll run down the battery).
3. Check to see if the DO NOT SHIFT light goes out. If it does, the alternator is the problem and there's a capacitor installation kit available to fix it.

Contact the Oshkosh Truck Defense Service Department, (800) 235-9151, ext 2681, to get the free kit.

All trucks with 200-amp alternators installed after Jun 99 and with serial numbers 66376 and higher have the capacitor already installed. The alternators have serial numbers 318 and higher.

If the DO NOT SHIFT light stays on when the truck is started with the voltage regulator disconnected, the alternator is not the problem. So continue to troubleshoot.

## FUEL TANK ACCESS COVER

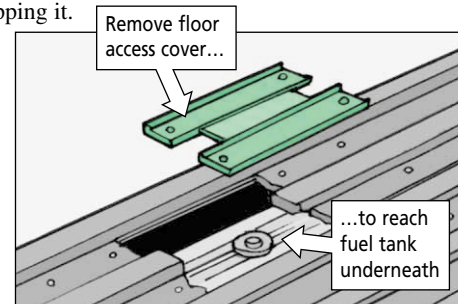


A cargo floor access hole and cover kit, NSN 2510-01-454-7077, lets you work on a HMMWV fuel tank without dropping it.

Once the kit is installed, you can work on the sending unit or replace a leaking access cover gasket with the fuel tank in place.

The kit comes with instructions, hardware and plate. Get the kit and the next time you have to drop the tank, make the hole and install the cover while the tank's off.

The kit cannot be used on ambulances (M996/M997) or Avengers because of their design. The kit might prove impractical on shelter carriers, too.



## FMTV D-rings Get Lube

It's a simple thing, maintainers, but don't overlook the cargo bed D-rings on FMTV trucks and trailers when you're lubing. LOs require the D-rings be lubed by oil can every 1,000 miles or monthly. If you ignore the lube, you'll have problems with corroded or broken D-rings—and your hauling will come to a halt.

COVER YOUR BACKSIDE



At night, or when the weather gets nasty, it can be hard to see the guy in front of you on the road. That’s an accident just waiting to happen.

TB 43-0209, *Color, Marking and Camouflage Painting of Military Vehicles, Construction Equipment and Materials Handling Equipment*, gives the thumbs up to add reflective decals to your vehicles and help cut down rear-end collisions.

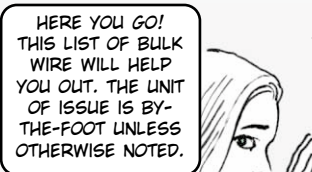
The decals come in two sizes: 7½ inches square and 15½ inches square. They are peel-and-stick decals, so surfaces must be clean before the decals are applied.

Make sure the yellow portion of the decal always points down and to the outside of the vehicle.

Order the smaller decal with NSN 9390-01-382-8308 and the larger one with NSN 9390-01-382-8369.



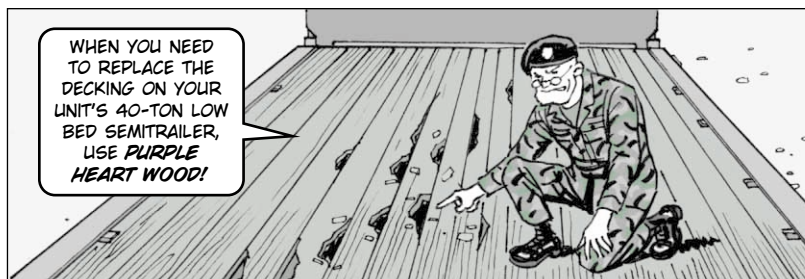
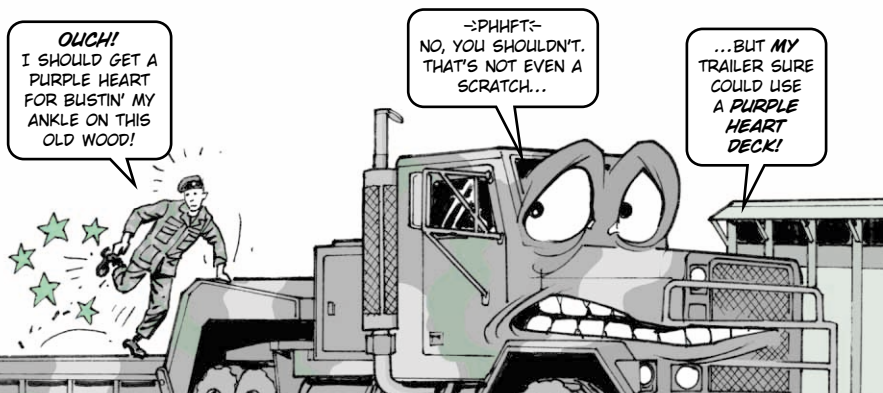
No More Wait for Wire



Wire Size (AWG)	Black, NSN 6145-	Red, NSN 6145-	White, NSN 6145-	Yellow, NSN 6145-	Blue, NSN 6145-	Brown, NSN 6145-	Green, NSN 6145-	Orange, NSN 6145-
000	01-229-3617	None	None	None	None	None	None	None
00	01-229-3618	None	None	None	None	None	None	None
0	01-229-3619	None	None	None	None	None	None	None
2	01-229-3620	None	None	None	None	None	01-230-9785	None
4	01-229-3621	None	None	None	None	None	None	None
6	01-229-3623	None	None	None	None	None	00-470-8252	None
8	00-470-8255	01-230-1858	01-229-8299	01-230-1857	00-023-6765	01-231-5966	01-230-1859	None
10	00-468-1261	01-020-1095	00-468-1260	01-231-1393	01-229-4127	01-229-4128	None	None
12	00-845-5957	00-845-5961	01-231-7624	00-845-5958	00-845-5959	00-845-5956	None	01-230-1862
14	00-310-2598 (500 ft spool)	00-310-2590	01-229-4134	00-312-6106	01-230-2517	01-230-1863	None	01-165-5633
16	00-471-0428 (100 ft spool)	00-889-8551	00-468-1259	01-229-9666	00-471-3951*	00-471-0429	00-468-1256 (100 ft spool)	01-230-2519
18	00-958-3655	01-169-0755	01-165-1430	01-169-0756	01-169-2868	01-169-0754	01-165-1429	00-838-6613
20	01-230-2520	01-230-2521	00-652-1441	00-652-9307	01-230-2522	00-939-4956	00-939-4960	00-939-4958

\*Order on a DD Form 1348-6 and put "NSN not on AMDF" in the REMARKS block.

## NEW WOOD FOR DURABLE DECKING



Purple heart is a tropical wood that's stronger and more durable than the decking boards in use now. It resists rotting, repels water and requires little maintenance.

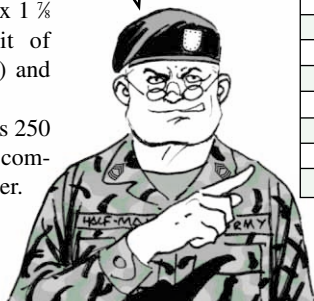
Purple heart is very hard, so a carbide blade is needed to cut it and carbide tip bits to drill holes.

Order purple heart with NSN 5510-01-454-8568. Each board you order will measure 16 feet 4 inches long x 9 7/8 inches wide x 1 7/8 inches thick. The unit of issue is board feet (BF) and each board is 27.21 BF.

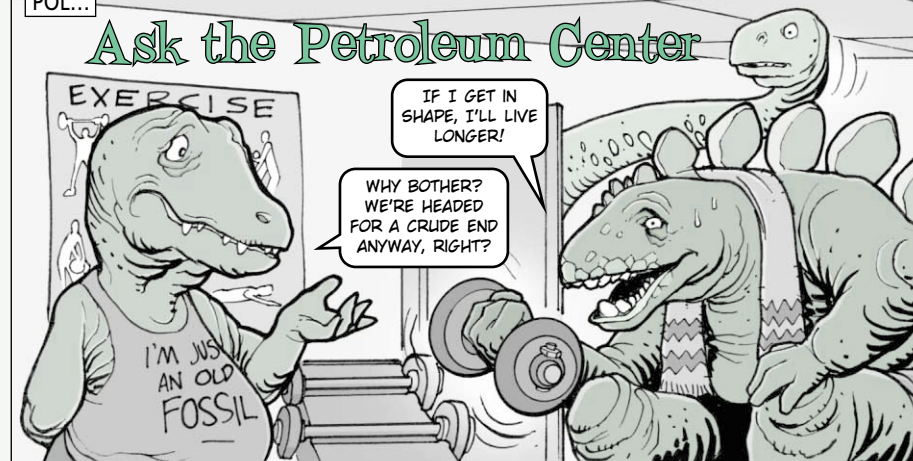
The minimum order is 250 BF. You need 325 BF to completely re-deck one trailer.

HERE ARE THE  
NUMBER OF BOARDS  
AND THE SIZES YOU  
NEED TO DO THE  
DECKING JOB...

Boards	Width (Inches)	Length
4	7 7/8	7 ft 1/2 in
2	5	7 ft 1/2 in
4	7 7/8	16 ft 3/4 in
2	5 1/2	16 ft 3/4 in
2	5 3/4	13 ft 7 in
2	4 1/8	13 ft 7 in
4	4 1/8	16 ft 3/4 in
2	4 1/8	2 ft 9 in



## Ask the Petroleum Center



Most drivers and mechanics know their vehicle's lube order and technical manual like the back of their hand. When put to the test, they can answer the following questions without second-guessing. Can you?

**Q:** What kind of oil or lube works best for your equipment?

**Q:** How do you test or recycle antifreeze?

**Q:** Which hydraulic fluid is right for your vehicles?

**Q:** How do you remove moisture and fungus from fuel tanks?

On the outside chance that you need help for POL answers not found in the vehicle or equipment TM, write to:

US Army Petroleum Center  
AMSTA-LC-CJPL  
54 M Ave, Suite 9  
New Cumberland, PA 17070-5008

You can also send them a fax at: Commercial (717) 770-5002, or DSN 771-5002.

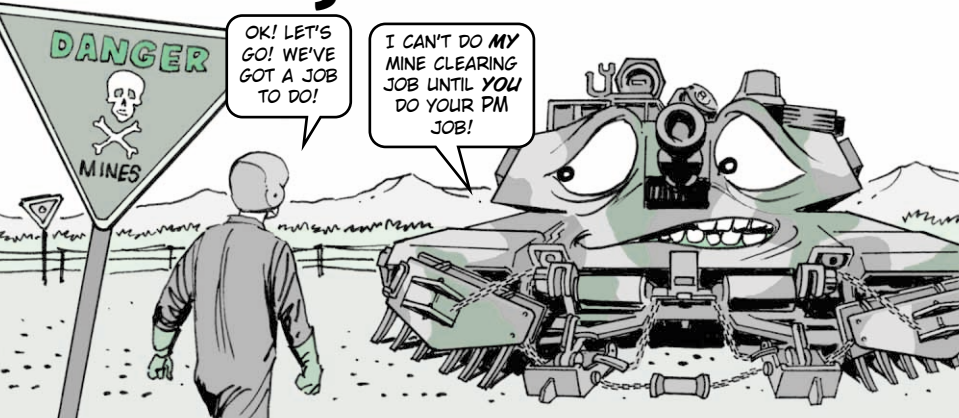
Or call for technical assistance in these specific areas:

Area	Commercial (717) 770-	DSN 771-
Operations (policy and procedures) Alternative fuels	8580/7040/6752/4392	
Quality (testing, disposition, shelf life)	6511/4392	
Package products	5868	
Fuel requirements (type, quantity, delivery) Capitalization	7247	
Coal	7109	
Identiplates, SF 149 (credit card)	4993/7040	
Facilities Equipment Engineering Environmental Privatization	6445 5582 6053 5873	

For lots of other helpful information, visit the Petroleum Center's web site at:

<http://usapc.army.mil>

# Clearing the PM Minefield

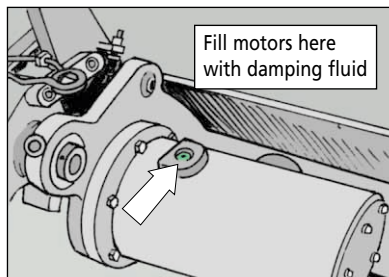


It takes regular doses of PM to keep your tank's mine clearing blade out of a maintenance minefield. Follow the good words in TM 9-2590-509-10, then dig a little deeper to unearth these PM tidbits:

## Motors

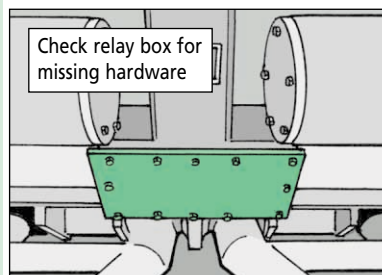
If the blades come crashing down when the electrical or manual blade release is used, too little oil or oil contamination could be the culprit.

Use the electrical switch to raise and lower the blades once more. If they come crashing down again, have your mechanic drain the old oil from each motor and replace it with four ounces of damping fluid, NSN 9150-00-607-0897.



## Water Damage

Heavy rain or high-pressure water can seep into the relay box if any of the cover assembly bolts are missing or if the cover seal is missing or damaged. Water buildup causes electrical shorts.



Your mechanic can replace a missing or damaged seal with NSN 5330-01-277-5647. New bolts come with NSN 5305-00-269-3235. NSN 5310-00-637-9541 gets new lock washers.

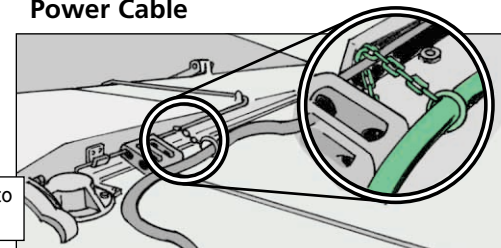
## Depth Adjustment

When you're training with the mine clearing blade, keep the adjusting plate set at its shallowest depth—eight inches. That prevents damage to your tank's engine and the blade's teeth.

## Power Cable

Make sure the power cable is secured to the fender torsion bar. That keeps the cable from getting pinched when the driver's hatch is opened.

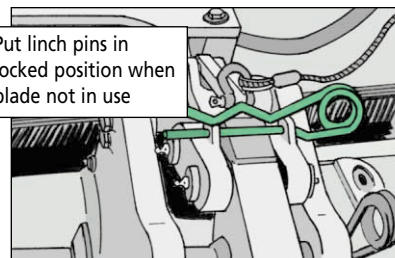
Secure power cable to fender torsion bar



## Travel Lock Linch Pins

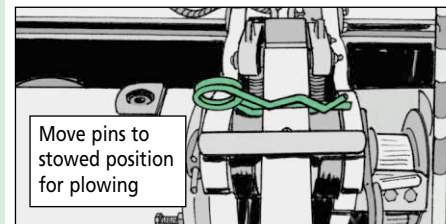
The travel lock linch pins, NSN 5315-01-382-5953, should be put in the locked position whenever the mine clearing blade is not in use. That keeps the blade from being accidentally dropped while the tank is moving.

Put linch pins in locked position when blade not in use



Before starting mine clearing operations, move both pins to the stowed position so the blade can be lowered.

Move pins to stowed position for plowing

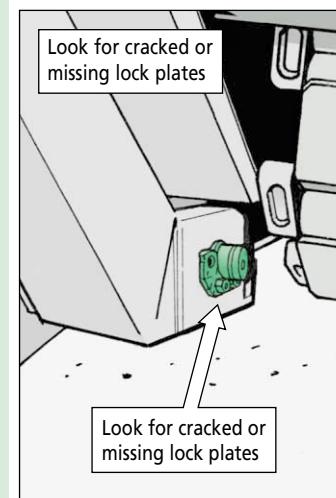


## Locking Plate

Keep a close eye on the locking plate, NSN 2590-01-277-5628, for the blade's mounting pins. These C-shaped plates are under a lot of stress and can crack or break.

Look for cracked or missing lock plates

Look for cracked or missing lock plates



Without 'em, the mounting pins slip out and the blade comes loose from the mounting frame.

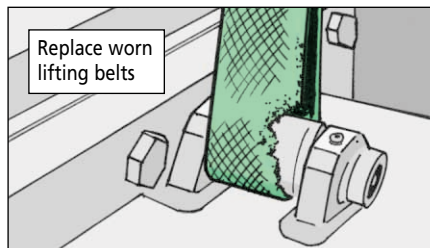
## Lifting Belts

Take care of the mine clearing blade's lifting belts and they won't let you down. That means using the right lifting techniques.

During operations, always make sure you back the vehicle 8-10 feet before lifting the blades. That keeps the blades from hanging up on anything that'll snap the belts.

Never use the mine clearing blade to recover mired vehicles or to lift anything. Either the lifting belts will break or the motors will burn out.

Never drive the blade through concertina wire. It'll nick and cut the belts. When that happens, your mechanic has to replace them with new belts, NSN 4020-01-289-8249.

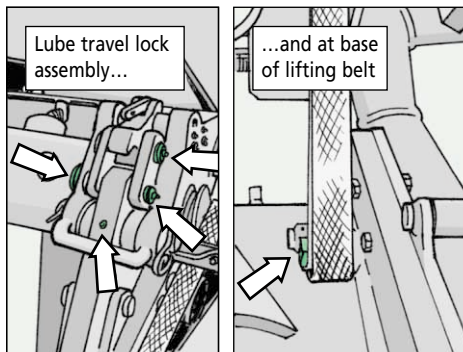


## Lubing

There are only five lube points on each side of the mine clearing blade, but they still get missed.

There are four lube points on each of the travel lock assemblies. The other is at the base of the lifting straps.

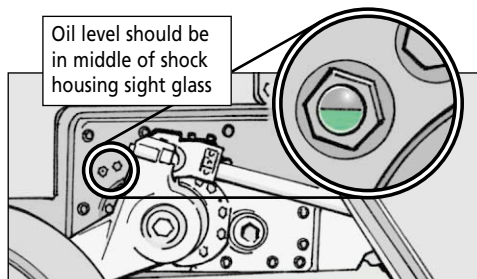
Give each of these lube points a good shot of general purpose aircraft grease after every operation. NSN 9150-00-145-0268 brings a 5-lb can of the grease.



## Don't Forget the Tank

Now that you've got the mine clearing blade checked out, don't forget the tank it's attached to.

The blade's weight puts a lot of extra stress on your tank's suspension system, so check the shock absorber housings for leaks each time you stop. If the fluid level is low, add lubricating oil, NSN 9150-01-439-0756, until it reaches the halfway point in the sight glass.

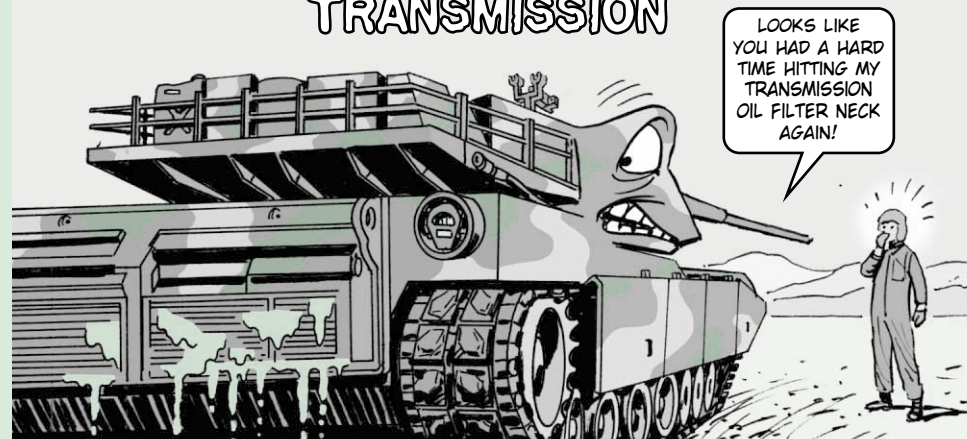


Never park your tank with the mine blade in the travel position for an extended period. Lower the mine blade to the ground.



## M1-Series Tanks...

# SPILLED OIL DAMAGES TRANSMISSION



Transmission oil belongs in your tank's transmission, not sprayed all over the engine.

Unfortunately, the filler neck is so small that spills often happen. A lot of that spilled oil gets blown by the cooler fans onto the oil cooler fins.

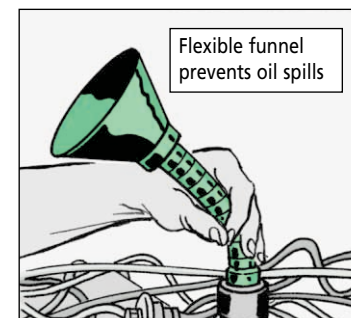
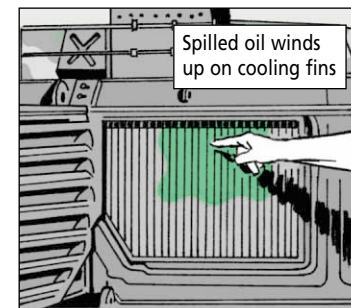
That oil residue attracts dirt and dust like a magnet. The gooey mess that forms on the cooling fins won't let the heat radiate away from the oil inside the coolers. That results in transmission damage.

Never add oil without a funnel. If your tank's oil funnel tip is broken or too large for the transmission filler opening, get a new funnel.

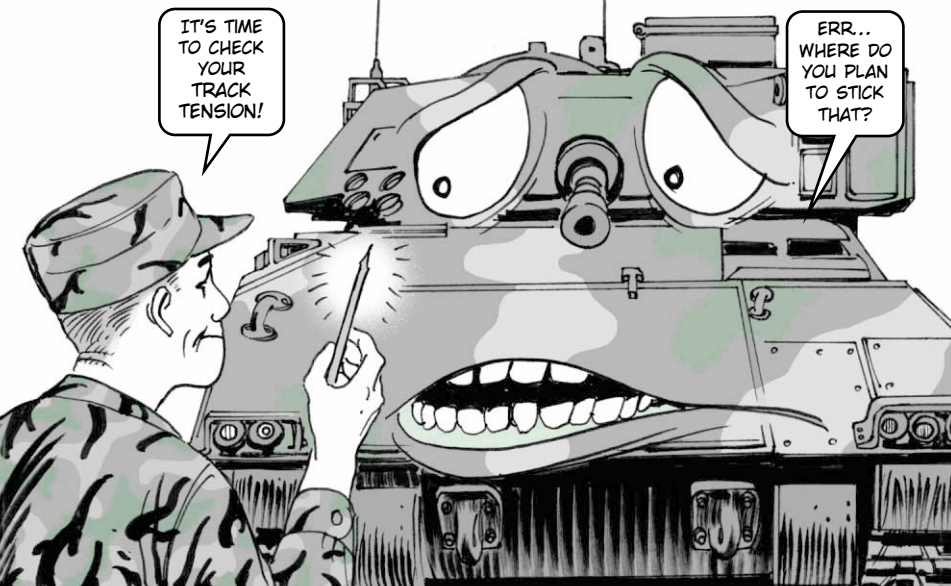
A flexible funnel does the best job. NSN 7240-00-559-7364 brings a box of 12.

Each funnel holds one quart, so use it carefully. Don't pour more than a quart into the funnel at one time or it'll overflow. If that happens, make sure you wipe up any spilled oil right away.

PS 597



# HANDLING TRACK TENSION



**C**rewmen, how you handle tension will determine just how healthy the track is on your Bradley or MLRS.

Track that's too tight wears out sprockets before their time. Track that's too loose gets thrown.

Keep track tension just right by checking it after every operation. All it takes is a pencil and a little know-how:

Let the vehicle roll to a complete stop on firm, level ground. Stop the engine and try turning the rear support roller with one hand.

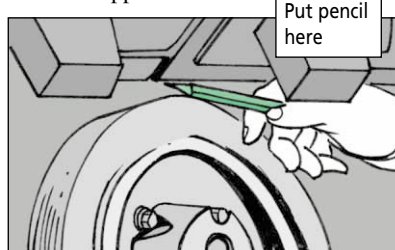
The roller should turn freely, but with only enough room between the track and roller for a pencil to pass through.

If there's more room than that, the track is too tight. If the roller won't turn at all, the track is too loose.

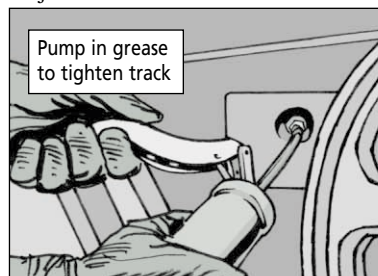
Either way, it's time to make some adjustments.

## Tightening Track

1. Place a pencil between the track and the rear support roller.

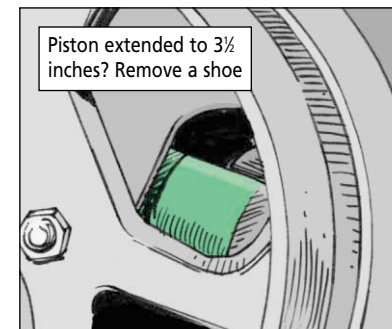


2. Wipe the lube fitting with a clean cloth and pump grease into the track adjuster.



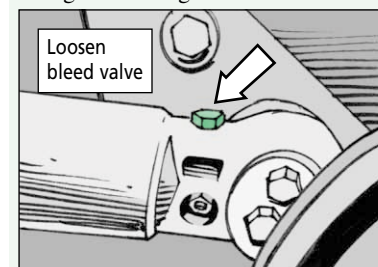
3. Watch the pencil. The tension is right when there's just enough room between the track and the rear support roller for the pencil to fit.

4. Keep an eye on the track adjuster piston, too. The maximum extension for the piston is 3½ inches. If you've reached that limit and the track is still too loose, you'll need to remove a track shoe and start over.



## Loosening Track

1. Once again, place a pencil between the track and the rear support roller.
2. With a ½-in open-end wrench, loosen the track adjuster bleed valve just enough to allow grease to flow.



3. Watch the pencil. When there's just enough room between the track and the rear support roller for the pencil to fit, the tension is right.
4. Re-tighten the bleed valve and wipe away excess grease.



**GIVE  
HOISTING  
BEAM THE  
HOOK!**



Dear Editor,

After pulling or installing a powerpack with your M88A1 recovery vehicle, it's very easy to snag fuel lines, connecting links and wiring harnesses as you lift away the hooks on the hoisting beam, NSN 3940-00-622-7288.

You can't slip the hooks into the chain links to keep them out of the way, either. The links are too small.

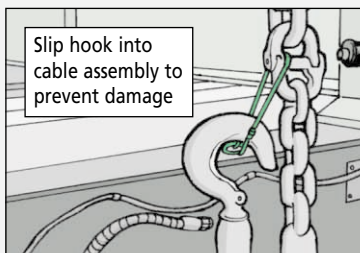
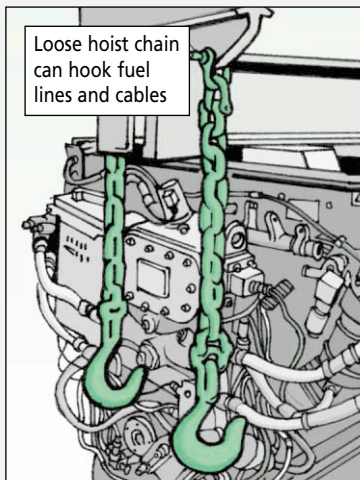
We solved the problem by slipping a cable assembly, NSN 1015-00-829-6356, through the swivel link on each of the 5 chain assemblies. The two looped ends of the cable are then connected using a key ring, NSN 5342-00-533-1720.

Before lifting away the hoisting beam, we slip each of the hooks into a cable. No more hooking problems!

Peter Kohler  
Maintenance Activity Vilseck  
APO AE 09112

**From the desk  
of the Editor**

*You've really hooked us  
with that solution!*



## LOOK AT FIRE EXTINGUISHER VALVE




Crews, check the valve on the 5-lb fixed fire extinguisher assembly in the crew compartment of your M104 Wolverine. If the valve has one of these three serial numbers—1092, 1208, or 1212—get the extinguisher replaced now!

The Santa Barbara Dual Spectrum valves originally used on these fire extinguishers were defective. Tests showed that the valves stopped working after several automatic discharges and could then only be discharged manually.

All of the defective valves have been replaced except for three. Serial numbers **1092, 1208 and 1212** are still missing in action.

Do you have one of these valves on the fire extinguisher in your Wolverine?

**Take a close look at the serial number on the fire extinguisher valve.** If you find one of the missing serial numbers, contact your local TACOM LAR or the Wolverine program manager's office (DSN 786-5522/5557 or (586) 574-5522/5557) for turn-in information.

		<b>DUAL SPECTRUM®</b>	
SENSING AND SUPPRESSION SYSTEMS			
<b>FIRE EXTINGUISHER VALVE</b>			
P/N	283281-0002	MFG	61423
S/N	1092		
CUSTOMER P/N	19207 ASSY - 12324276		
SERVICE	HALON 1301 & N2	OPER. PRESS.	750 PSI
CONT			
NSN			
SBD S CAGE 05BU0			
U.S. PAT. NO. 4,579,315			
SANTA BARBARA DUAL SPECTRUM			
163 AERO CAMINO			
GOLETA, CALIFORNIA 93117			

# Shocks and Bars Just Got Better

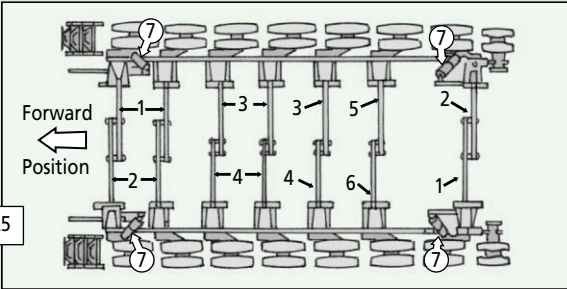


It's time to admit it: The torsion bars and shock absorbers on your ammo carrier and A2-A5 howitzers just don't cut it.

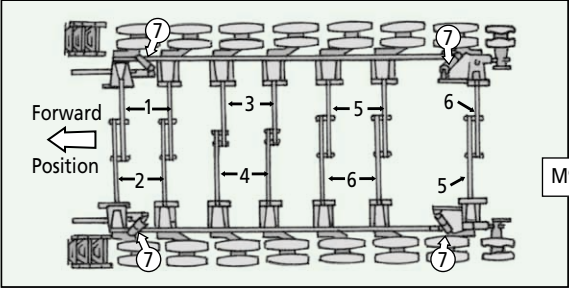
Some mechanics have wondered why they can't substitute the sturdier torsion bars and shock absorbers from the M109A6 Paladin instead. Well, you can stop wondering.

After thorough testing, TACOM has determined that the Paladin torsion bars and shocks are OK to use in A2-A5 howitzers and the M992A2. Use the following info to pencil in changes to Figs 116 and 125 of TM 9-2350-311-24P-1 and Figs 167 and 177 of TM 9-2350-293-24P.

Item Number	Item	Old Part Number	New Part Number	NSN 2510-01-	Qty
1	Torsion bar	10898191-2	12361490-4	300-0227	3
2	Torsion bar	10898191-1	12361490-3	300-0226	3
3	Torsion bar	10898194	12361490-6	492-0128	3
4	Torsion bar	10898193	12361490-5	493-3427	3
5	Torsion bar	10898194-1	12361490-6	492-0128	1
6	Torsion bar	10898193-1	12361490-5	493-3427	1
7	Shock absorber	10920696	12361491	303-2933	4



Item Number	Item	Old Part Number	New Part Number	NSN 2510-01-	Qty
1	Torsion bar	10898192	12361490-2	300-0225	2
2	Torsion bar	10898191	12361490-1	300-0224	2
3	Torsion bar	10898194	12361490-6	492-0128	2
4	Torsion bar	10898193	12361490-5	493-3427	2
5	Torsion bar	10898191-1	12361490-3	300-0224	3
6	Torsion bar	10898191-2	12361490-4	300-0227	3
7	Shock absorber	10920696	12361491	303-2933	4



THERE'S NO NEED TO SWITCH OUT ALL THE TORSION BARS AND SHOCKS AT ONCE.

JUST REPLACE THE OLD ONES WITH THE NEW ONES AS THEY FAIL.



## M109A6 Paladin...

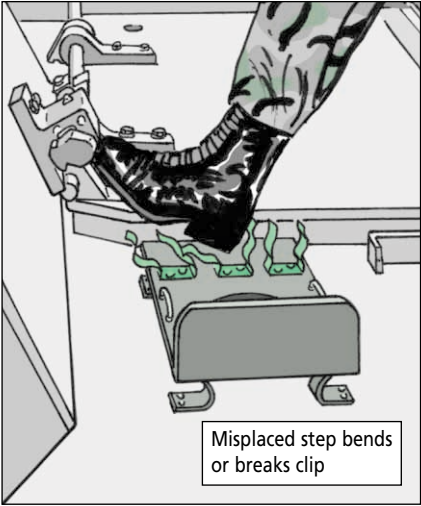
# FOOT BREAKS BRACKET

Watch where you put your feet when you're on top of your M109A6 Paladin, crewmen.

It takes only one misstep to come down on the signal flare bracket, NSN 1025-01-457-0527. If you're lucky, you'll only bend the metal clips that hold the signal flares. Then you may be able to use some pliers to bend the clips back up.

If you're unlucky, the clips snap off. Then you have no choice but to replace the bracket with a new one. That sets your unit back almost \$70.

So save yourself some extra work and your unit a repair bill. Keep your feet clear of the signal flare bracket.



# ECU/PPU

# AND YOU

I'M  
BURNING  
UP IN  
THERE.

IF YOUR AVENGER'S  
ENVIRONMENTAL CONTROL  
UNIT/PRIMARY POWER UNIT  
—ECU/PPU—HAS TROUBLE  
DOING ITS JOB, YOU'LL HAVE  
TROUBLE BREATHING AND  
STAYING COOL.

PREVENT THOSE  
TROUBLES BY TAKING  
THE TROUBLE TO  
FOLLOW THIS  
ADVICE...

## Check the ECU/PPU's oil daily in the field.

Its engine often doesn't have a heavy enough load. That leads to wetstacking where oil is thrown into the exhaust system. The ECU/PPU looks like it's leaking oil, but it isn't. The only thing you can do is replace the lost oil before you crank up the Avenger.

Check oil  
daily in field

## Get the ECU/PPU serviced every 250 hours of operation by your direct support.

If you don't, the ECU/PPU will have a much shorter life. Just check the HOURS meter on the side of the ECU/PPU to see when the next service is due.

Check HOUR  
meter to see  
when next  
service is due

## Check the ECU/PPU mounts monthly for sagging.

Its rubber mounts wear out and let the ECU/PPU sag. If it sags too much, it can be hit by the fender when the Avenger rotates and be damaged.

Check  
mounts for  
sagging

Measure the distance from the bottom of the ECU/PPU to the fender on both sides. If the distances are more than an inch different, report it. The mounts need to be replaced.

Measure  
distance  
from  
ECU/PPU  
to fender

YOU'LL  
BREATHE  
EASIER  
WITH  
ECU/PPU PM!

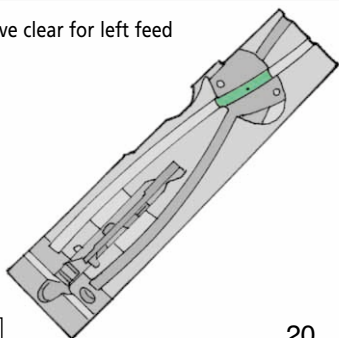


The M2 machine gun is the big guy in most arms rooms when it comes to fire power. But poor handling and poor operation can topple even this Samson. So give your M2 the help it needs.

### Assemble It Right

If you don't get the feed assembly right, the feed lever lug and bolt switch bang against each other during firing and are damaged. Most gunners feed from the left, so the left groove should be unblocked. If you feed from the right, turn the bolt switch so the right groove is unblocked.

Left groove clear for left feed

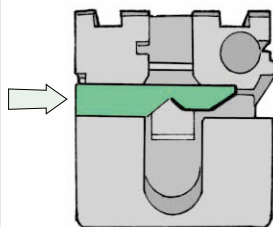


PS 597

20

The sear slide **always** goes in from the left. If you install it from the right, your M2 won't fire from the M63 mount.

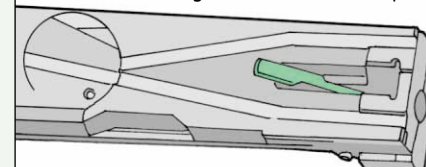
Sear slide goes left to right



AUG 02

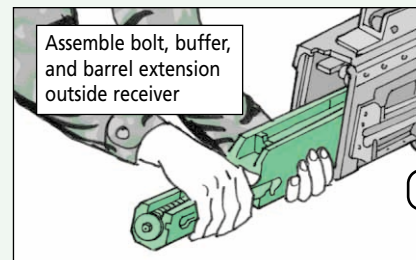
Push the cocking lever forward before pushing the bolt in the receiver. If you push the bolt in with the lever back, the bolt jams and your armorer has to unjam it.

Push locking lever forward before pushing in bolt



Put the bolt, buffer, and barrel extension together as one piece before putting them in the receiver. That's much easier than putting them together in the receiver.

Assemble bolt, buffer, and barrel extension outside receiver



PS 597

21

If you need to take off the back-plate, first ease the bolt forward. That takes pressure off the spring and prevents the drive rod from springing out of the receiver and into you.

PS MORE

YOU FOR-GOT TO PUT THE BOLT FORWARD, DIDN'T YOU?

YIKES!



## Carry It Right

The No. 1 reason M2s are damaged is from hard falls. Since the M2 weighs more than 80 pounds, the best way to carry it is with four hands.

After removing the barrel, have a buddy lock his hands under the barrel support while you lock your hands under the receiver 5 inches from its end.



If you're alone, hold the barrel support with your palm out and the receiver with your palm in. Brace the receiver against your body for more support.

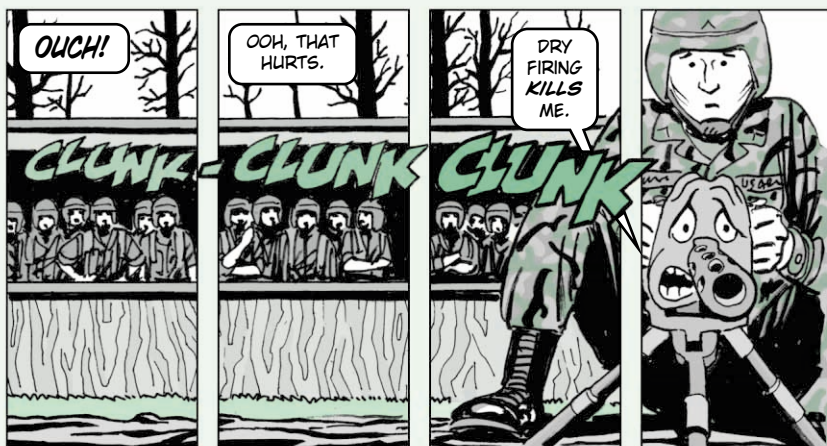


Never use the backplate handles for a carrying handle. If the backplate slips out, the receiver falls, maybe on your toes.

If you don't have a rack, store your M2 flat.

## Never Dry Fire It

Never dry fire! If you dry fire without the barrel installed, the bolt slams forward and ruins the rear threads of the barrel extension. Then the barrel can't be screwed in. So, always ease the bolt forward instead of dry firing.



## M249 Machine Gun...

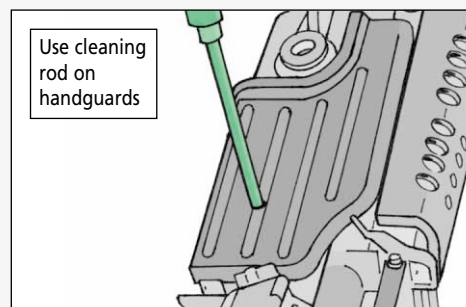
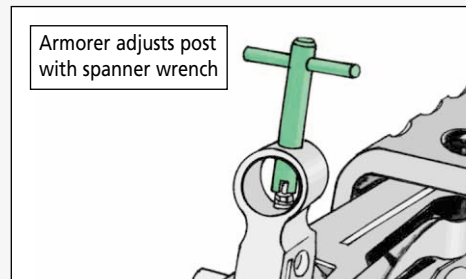
# DON'T BE A TOOL FOOL

If everybody used the right tool for each job, it would prevent lots of damage to equipment. That's especially true for the M249 machine gun.

☆ There's only one tool for adjusting the front sight post—and gunners don't have it. Only your armorer adjusts the front sight with the front sight post spanner wrench, NSN 5120-01-141-3839.

If you adjust the post with the usual tool—a nail—you damage the post. Then you can forget about accurate sighting.

☆ Use a cleaning rod to remove the handguards. If you use the op rod, it gets bent and must be replaced.



## Converting M60 Tripods for M249s

Dear Half-Mast,

We have several tripods for M60 machine guns, but we no longer have M60 machine guns. Is there any way to convert the tripods for use with the M249 machine gun?

CPT J.R.

Dear Captain J.R.,

You bet. To use the M122 tripod with the M249, order a traversing and elevation (T&E) adapter, NSN 1005-01-225-1156, and an ammo bracket adapter, NSN 1005-01-425-6541. The T&E adapter is Item 1 in Fig C-14A-1 of TM 9-1005-201-23&P and the bracket adapter will be added in the next change to TM 9-1005-201-10.

If you were one of the units whose M249s were converted to the light machine gun role, you should have received the two adapters. If you didn't, contact your TACOM-Rock Island logistics assistance rep or your force mod officer.

Half-Mast

## KEEPING STOCK OF BENCH STOCK



Dear Editor,

Keeping stock of bench stock can be a real pain in the keister for armorers, especially when they're taking care of a variety of rifles, machine guns, pistols, and mortars. It's difficult sometimes to tell an M249 machine gun spring from an M16 rifle spring.

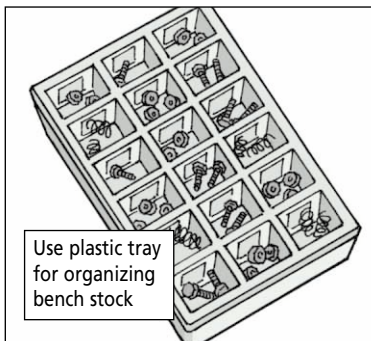
We made the job easier with compartmentalized plastic trays, the kind used to store things like fishing lures. Most large discount stores sell the trays for a few dollars or you can order one with NSN 8115-00-663-0212.

We buy one tray for each weapon model we maintain and keep all the small bench stock for that model in the tray.

We write each item's name and NSN on a filing label and stick it on the item's compartment. We also write the weapon's name on a label and stick it on the lid of the tray.

Finding what you need then becomes a snap. Organizing bench stock like this also make inspections easier since you can quickly prove you have the required repair parts.

Robert Henson  
Brant Ratliff  
Contractors  
Ft Campbell, KY



## COVER YOUR EYES

WHEN YOU NEED HEAVY-DUTY EYE PROTECTION, YOU HAVE THREE CHOICES...

1. Ballistic/laser protective spectacles (BLPS) for soldiers who need corrective lenses.
2. Special protective eyewear, cylindrical system (SPECS) for soldiers who don't need corrective lenses.
3. Sun, wind and dust goggles (SWDG) for protection from the elements.



All protective lenses for BLPS, SPECS, and SWDGs provide ballistic fragment protection and are available in clear, neutral gray tint (for sun protection) and laser protective configurations. Here's what's available:

BLPS	
NSN 8465-01-	Item
416-4636	BLPS, clear
417-4004	BLPS, gray
416-3207	BLPS, 2-wavelength laser protection
416-3210	BLPS, 3-wavelength laser protection
417-9963	Carrying case
416-4637	Retainer strap

You must obtain BLPS corrective lenses through your post clinic. BLPS lenses can also be used with the M40A1 mask, but you will need a prescription lens carrier.

NSN 6540-01-264-1348 and adapter NSN 4240-01-389-7152 from the clinic for this application. While the prescription lens carrier can be adapted for use in the mask, it's best for operational readiness to keep two separate prescription lens carriers—one for the BLPS and one for the M40A1 mask.

IF YOUR  
VISION IS  
20/20, TRY  
SPECS EYE  
PROTECTION...



SPECS		
NSN 8465-01-416	Item	Size
4626	SPECS kit	Regular
4629	SPECS kit	Large
4630	SPECS, gray	Regular
4633	SPECS, gray	Large
4635	SPECS, 3-wavelength laser protection	Regular
8516	SPECS, 3-wavelength laser protection	Large
4628	SPECS, clear	Regular
4631	SPECS, clear	Large
4634	SPECS, 2-wavelength laser protection	Regular
4632	SPECS, 2-wavelength laser protection	Large
4627	SPECS case	—
4637	Retainer strap	—

The SPECS kits each contains a clear ballistic protective lens in a frame, an extra neutral gray ballistic fragment protective lens, a retaining strap, carrying case, and extra temple pieces.

SWDG	
NSN 8465-01-	Item
109-3997	Lens, Class 3, clear
109-3996	Lens, Class 4, neutral
439-3506	Goggle assembly, Class 5, green, 2-wavelength laser protection
439-3511	Goggle assembly, Class 6, brown, 3-wavelength laser protection
328-8268	Kit (clear goggle assembly with an extra neutral gray lens)

The SWDG kit includes a synthetic rubber frame; clear and gray, class 3 and 4 plastic lenses; and a carrying case.

CLEAN BLPS,  
SPECS, AND SWDG  
WITH SOAP AND  
WATER AND DRY WITH  
A CLEAN CLOTH.



PS END

## Compressed Air

**N**eed a quick, simple way to clean dusty optics on your vehicle while avoiding scratches? Compressed air does the job. NSN 7930-01-411-9794 brings six 8-oz cans, NSN 7930-01-398-2473 gets six 10-oz cans, and NSN 7930-01-406-4055 brings six 12-oz cans of compressed air. Order what you need on a DD Form 1348-6 from RIC GSA and put "NSN not on AMDF" in the REMARKS block.

## CELIA & TREVOR GO FOR A RIDE

WHAT IS SO RARE AS A BEAUTIFUL  
SUMMER DAY, ESPECIALLY WHEN  
YOU'RE BEHIND THE WHEEL OF YOUR  
BENTLEY, WITH CELIA BY YOUR SIDE.

I SIMPLY  
ADORE  
THIS DAY,  
CELIA.

AND I  
ADORE YOU,  
TREVOR.

I ADORE YOUR  
IVORY *SKIN...*  
YOUR BEWITCHING  
*EYES.*

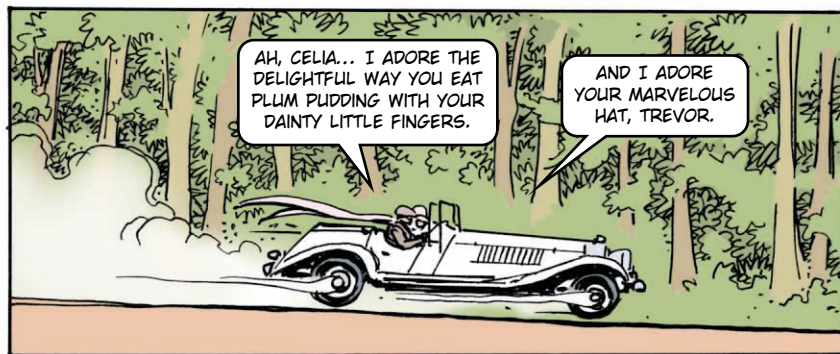
AND I  
ADORE  
YOUR  
DASHING  
PROFILE  
AND YOUR  
RAKISH  
GRIN.



PS 597

27

AUG 02

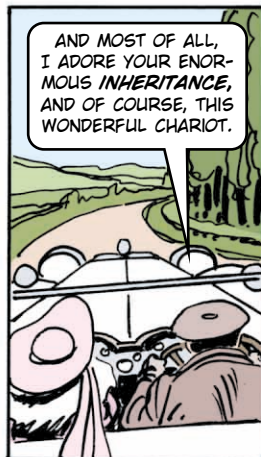


AH, CELIA... I ADORE THE DELIGHTFUL WAY YOU EAT PLUM PUDDING WITH YOUR DAINTY LITTLE FINGERS.

AND I ADORE YOUR MARVELOUS HAT, TREVOR.



BUT, *MOST* OF ALL, I ADORE YOUR BENTLEY MOTORCAR, TREVOR.



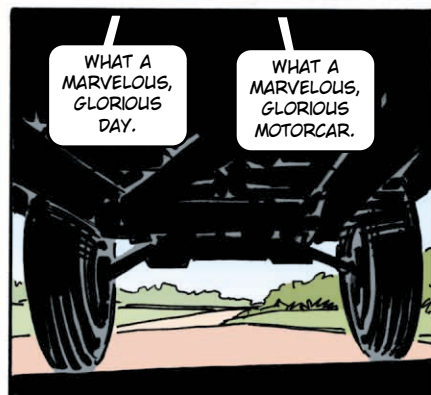
AND MOST OF ALL, I ADORE YOUR ENORMOUS *INHERITANCE*, AND OF COURSE, THIS WONDERFUL CHARIOT.



I JUST ADORE THE FREE, WILD WIND RUSHING THROUGH MY HAIR, TREVOR.

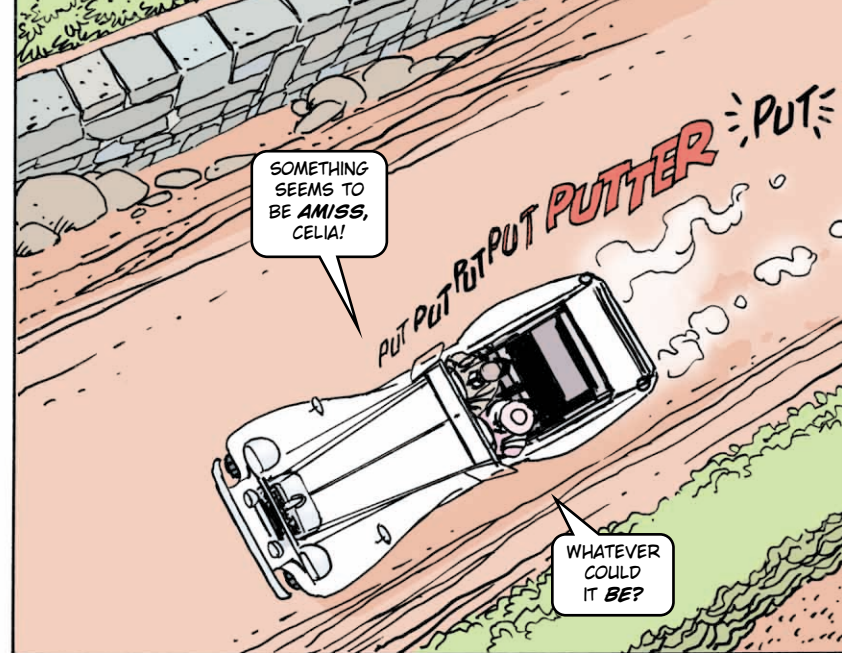


AND THE WAY MY SILK SCARF FLUTTERS DRAMATICALLY.



WHAT A MARVELOUS, GLORIOUS DAY.

WHAT A MARVELOUS, GLORIOUS MOTORCAR.



SOMETHING SEEMS TO BE *AMISS*, CELIA!

WHATEVER COULD IT *BE*?



WE'VE *STOPPED!* THE ENGINE HAS GIVEN OUT!

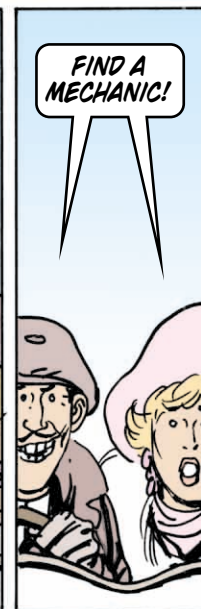
OH, MY! THIS IS *HORRIBLE!*



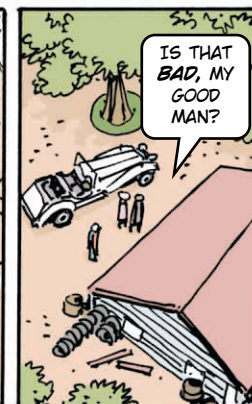
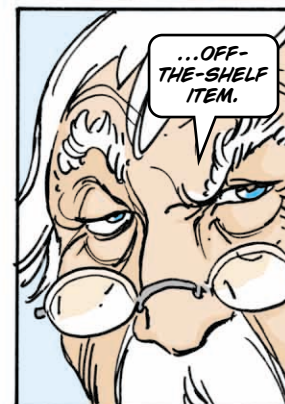
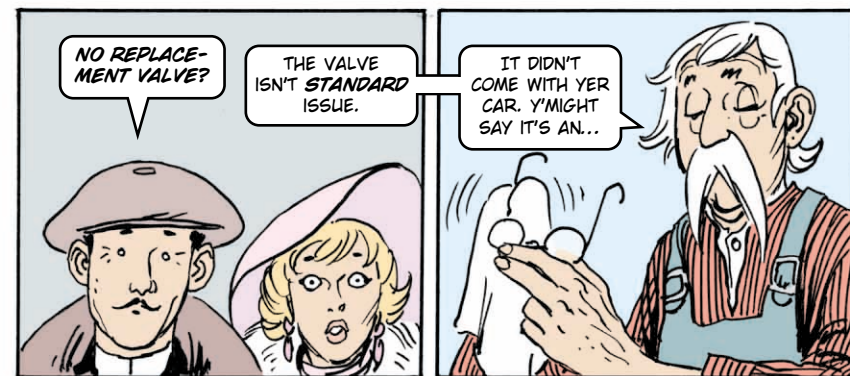
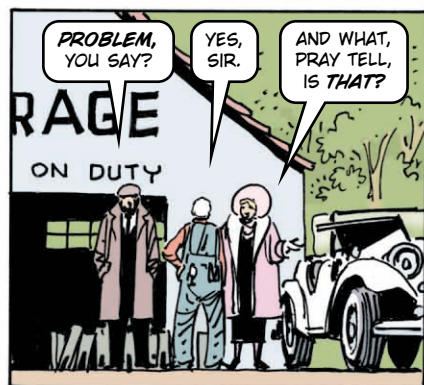
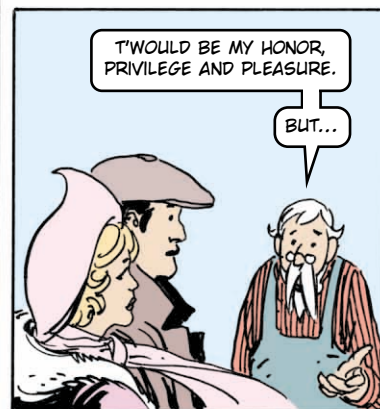
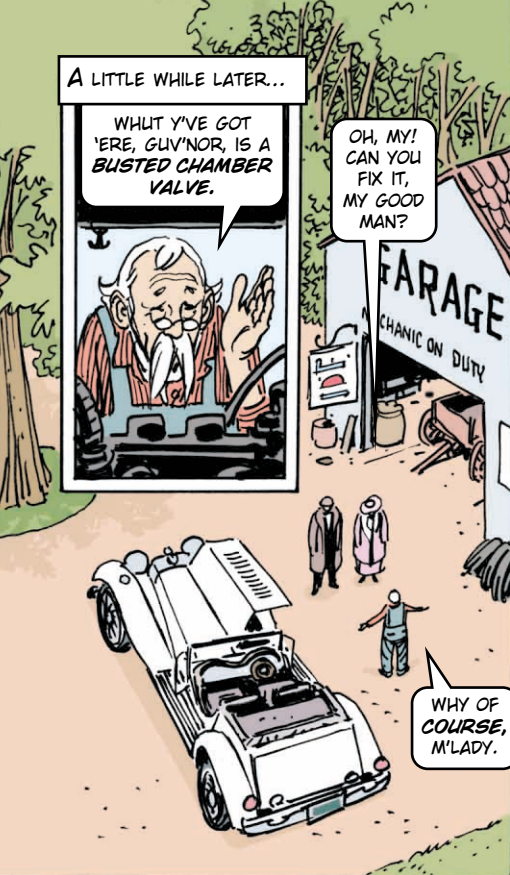
*DITTO*, DARLING.

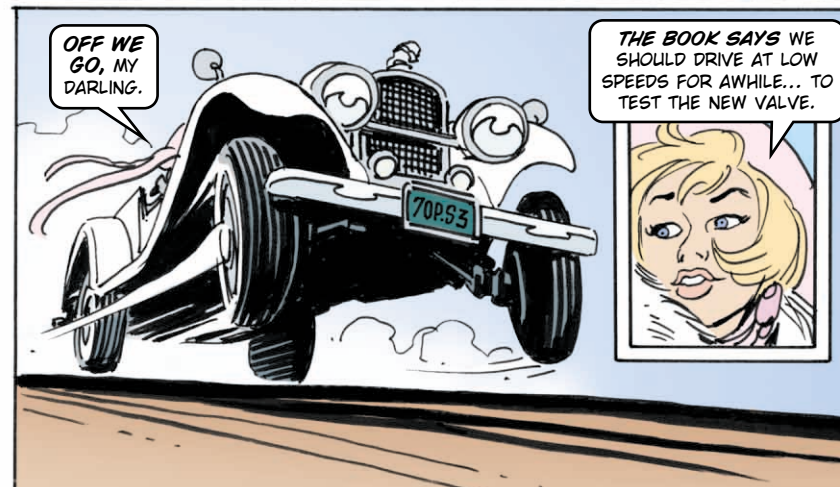
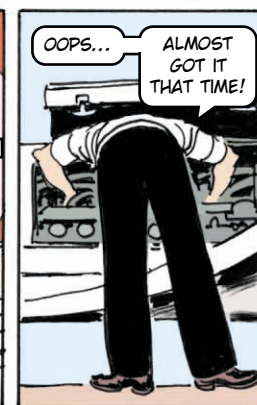
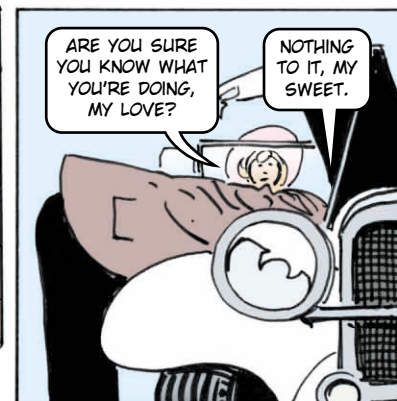
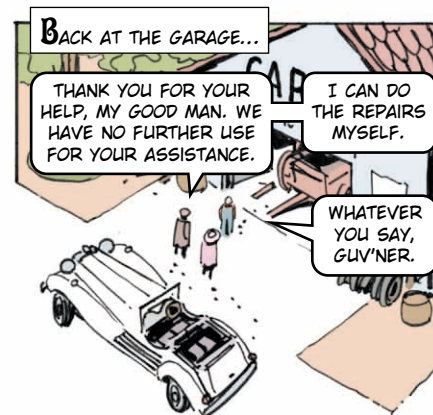


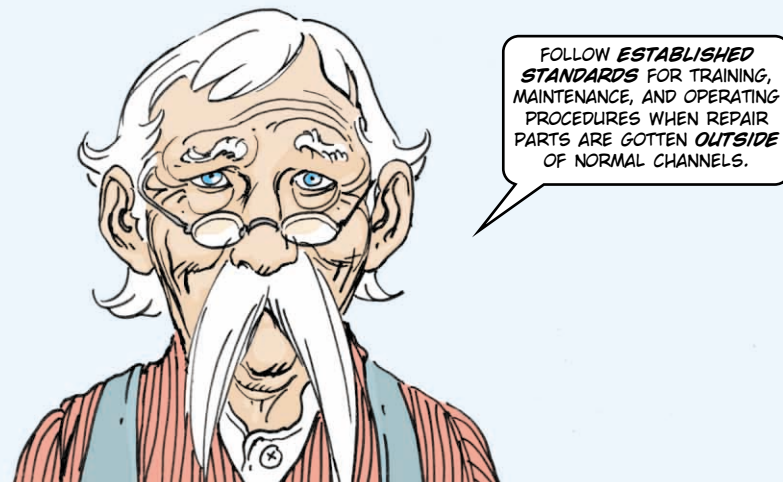
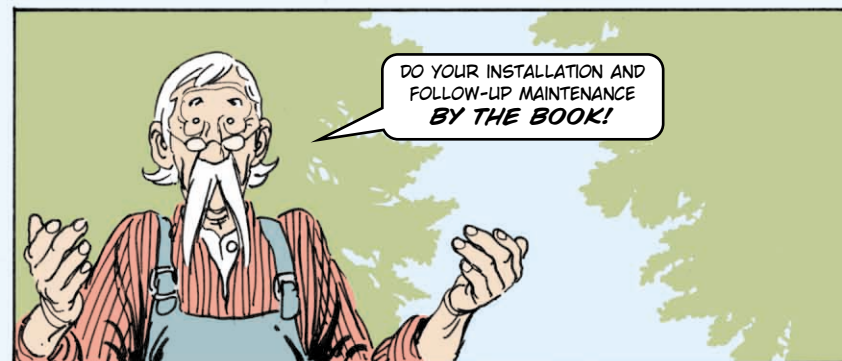
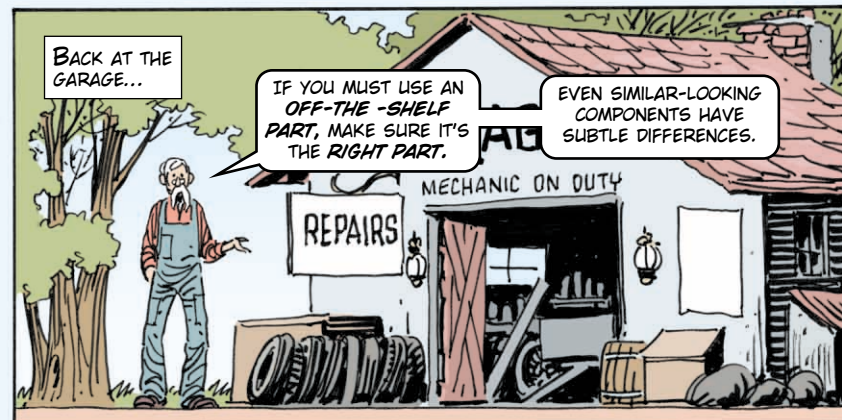
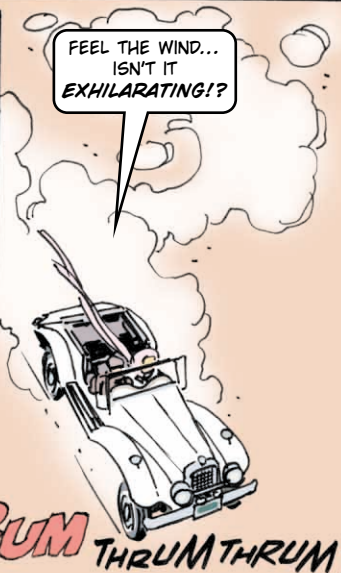
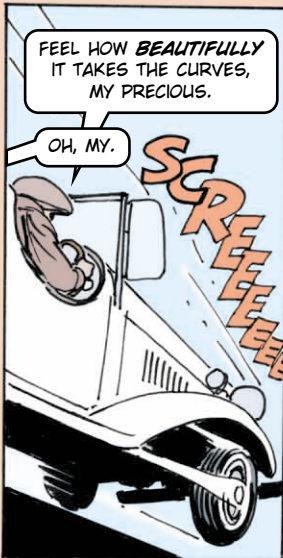
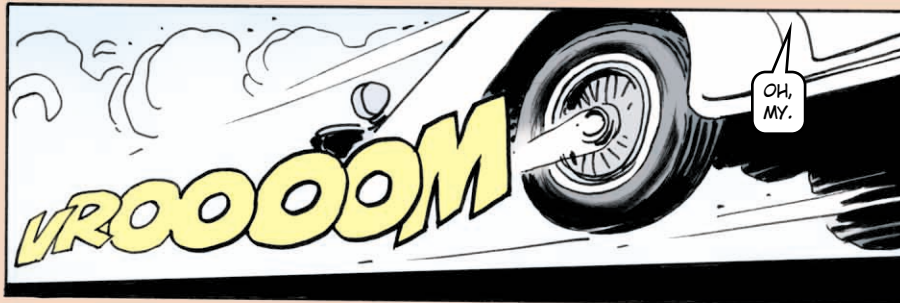
WHATEVER SHALL WE *DO*, SWEET?



*FIND A MECHANIC!*







AND SO...

SOMETHING SOUNDS  
AMISS, CELIA. WE'RE...  
SLOWING... DOWN...

NO, TREVOR.  
WE'VE STOPPED.

→SNIFF SNIFF→  
THERE IS A PECULIAR  
ODOR EMANATING  
FROM THE BENTLEY'S  
BONNET.

IT'S  
SMOKING!

RUN,  
CELIA!

I AM  
RUNNING,  
TREVOR!

I DON'T  
ADORE YOU  
ANYMORE,  
TREVOR.

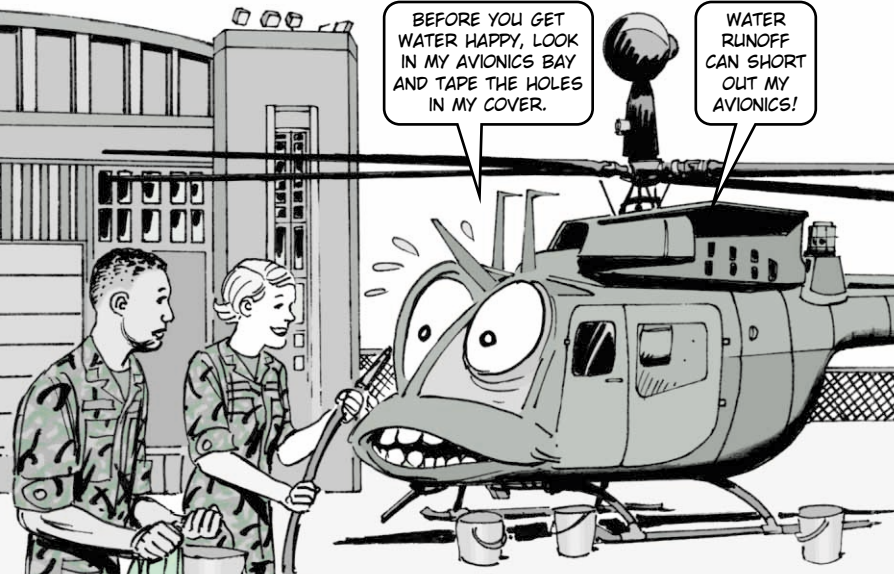
DITTO,  
DARLING.

OH-58D...

## COVER HOLES BEFORE WASHING

BEFORE YOU GET  
WATER HAPPY, LOOK  
IN MY AVIONICS BAY  
AND TAPE THE HOLES  
IN MY COVER.

WATER  
RUNOFF  
CAN SHORT  
OUT MY  
AVIONICS!



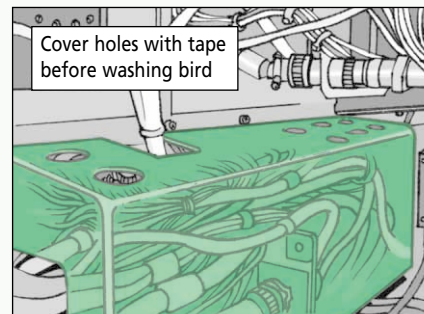
Just like you, once in a while your Kiowa Warrior needs a bath. But wash it with care. Water runoff from the engine deck can get into the avionics bay and short out the remote control circuit breaker (RCCB) inverter and relays.

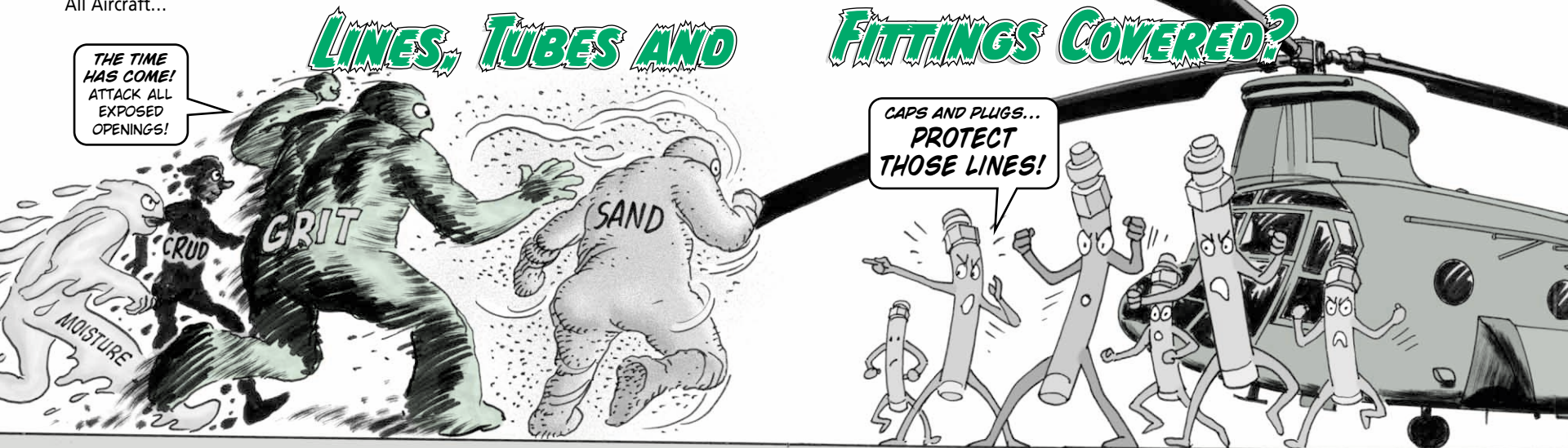
So before you bathe your bird, tape over the holes in the top of the cover assembly with duct tape, NSN 5640-00-103-2254.

When the RCCB goes, power to the mast-mounted sight is knocked out. It won't be able to search for targets or get a fix on forward positions when you power up your aircraft. Other electrical relays are in harm's way, too, if not protected from water.

Water is needed to give your bird a good cleaning. But too much of a good thing can wreak havoc on electrical and avionic components. So cover those holes before you wash.

Cover holes with tape  
before washing bird



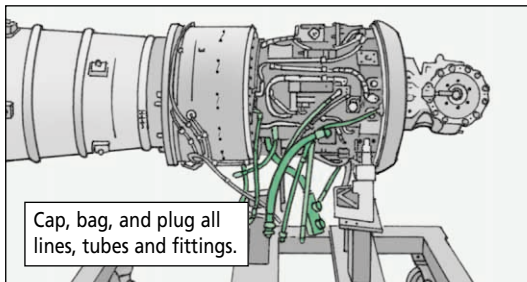


LEAVING AIRCRAFT LINES, TUBES AND FITTINGS UNCOVERED WITHOUT CAPS, BAGS OR PLUGS WHILE DOING CHECKS OR MAINTENANCE IS A BAD CHECK AGAINST **YOU**.

THIS IS WHAT YOU'LL GET...

- ✓ Dirt in open lines contaminates fluids and residue won't let connectors seal.
- ✓ Moisture in lube becomes paste and can't do its job.
- ✓ Threads get smashed, and delicate connector pins get broken or bent.

SO USE AND REUSE CAPS AND PLUGS THAT COME WITH COMPONENTS, HOSES, LINES AND FITTINGS. CHECK AND CAP, BAG OR WRAP ALL EXPOSED OPENINGS AND LINES TO PREVENT FLUID SPILLS, MOISTURE IN OIL AND DIRT BUILDUP.



## FITTINGS COVERED?

CAPS AND PLUGS... PROTECT THOSE LINES!

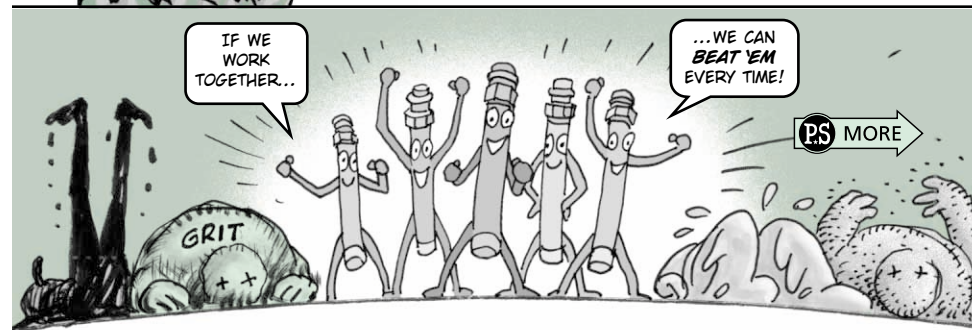
IF YOUR TM DOESN'T LIST CAPS OR PLUGS TO USE, USE THIS LIST TO IDENTIFY PLUGS AND CAPS NEEDED TO SEAL FLUID SYSTEMS AND PROTECT THREADS ON YOUR BIRD...



Tube Plug (Flared) NSN 4730-	Size (Outside diameter) inches
00-287-0109	1/8
00-287-0100 (plain)	3/16
00-287-0110	1/4
00-287-0111	5/16
00-715-0082	3/8
00-287-0112	7/8
00-287-0113	1 1/2
00-287-0116	2
00-287-0117	3/4
00-287-0118	1

IF WE WORK TOGETHER...

...WE CAN BEAT 'EM EVERY TIME!



HERE'S MORE  
INFO FOR YOU  
ON CAPS AND  
PLUGS!



Tube Cap (HYD) (Flareless) NSN 4730-	Size (Outside diameter) inches
00-837-9842	$\frac{1}{8}$
00-115-0210	$\frac{3}{16}$
00-958-3704	$\frac{1}{4}$
00-640-0632	$\frac{1}{4}$
00-985-5165	$\frac{3}{16}$
00-618-3572	$\frac{3}{8}$
00-990-2585	$\frac{3}{8}$
00-451-2762	$\frac{1}{2}$
00-618-4227	$\frac{5}{8}$
00-412-8260	$\frac{5}{8}$
00-202-8792	$\frac{3}{4}$
00-221-2128	$\frac{3}{4}$
00-400-2223	$\frac{3}{4}$
00-085-1936	1
00-274-7120	1

Tube Plug (HYD) (Flareless) NSN 4730-	Size (Outside diameter) inches
00-540-2231	$\frac{1}{8}$
00-595-3917	$\frac{3}{16}$
00-541-7198	$\frac{1}{4}$
00-541-1465	$\frac{3}{16}$
00-202-9169	$\frac{3}{16}$
00-203-3709	$\frac{3}{8}$
00-555-7804	$\frac{3}{8}$
00-202-8341	$\frac{1}{2}$
00-202-8860	$\frac{1}{2}$
00-966-5695	$\frac{5}{8}$
00-203-0247	$\frac{5}{8}$
00-289-8627	$\frac{3}{4}$
00-203-0246	$\frac{3}{4}$
00-203-6938	1
00-289-8626	1

Cap Tube (Flared) NSN 4730-	Size (Outside diameter) inches
00-497-4244	$\frac{1}{8}$
00-221-2126	$\frac{3}{16}$
00-278-5006	$\frac{1}{4}$
01-061-4150	$\frac{5}{16}$
00-585-8769	$\frac{3}{8}$
00-221-2127	$\frac{5}{8}$
00-221-2128	$\frac{3}{4}$
00-221-2129	1

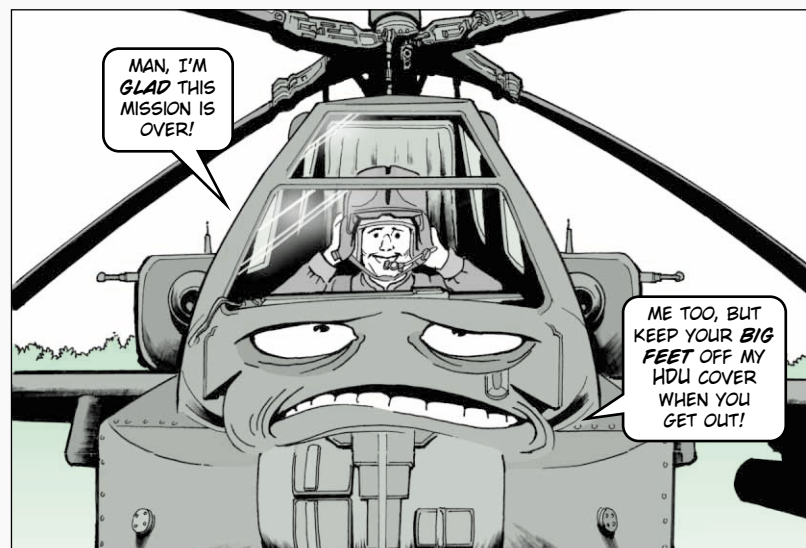
ADDITIONAL CAP AND PLUG  
INFO CAN BE FOUND IN YOUR  
GENERAL AIRCRAFT TMS.

CHECK OUT PARAS 4-5 AND  
4-5L OF TM 1-1500-204-23-2,  
AND YOUR CONSUMABLES LIST  
IN TM 1-1500-204-23-6 FOR  
MORE INFO.

'COURSE, ALWAYS USE CAPS  
AND PLUGS CALLED FOR IN  
YOUR MAINTENANCE TMS.

PS END

# BIG FEET OFF COVER



ME TOO, BUT  
KEEP YOUR **BIG  
FEET** OFF MY  
HDU COVER  
WHEN YOU  
GET OUT!

**P**ilots and gunners, your Apache's helmet display unit (HDU) cover is not a step up for a quick exit.

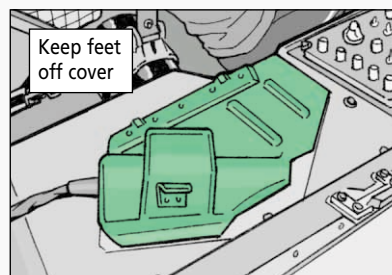
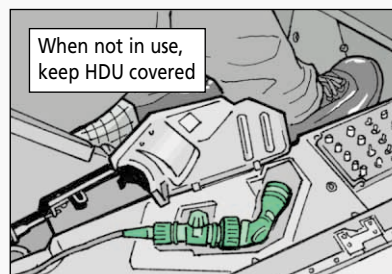
So watch your big feet when you exit the bird and steer clear of the cover.

**Don't** step on it!

The thin cover protects the HDU but will crack under your weight. If you step on the cover and crack it, you could damage or break the HDU device, too. Then the HDU is NMC.

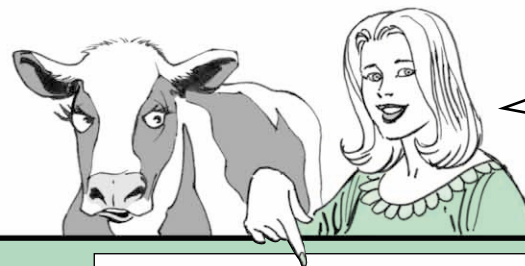
Once you break the HDU, you won't be able to view the video display readings in the eyepiece to fire the 30mm gun or other weapons or be able to fly during limited visibility conditions.

So pay attention and slow down when the mission is over. The HDU cover can't handle your big feet.



# BATTERY COMPARTMENT PARTS

YOU CAN SEARCH IN TM 11-5805-262-20P OR -34P UNTIL THE COWS COME HOME FOR BATTERY COMPARTMENT PARTS FOR YOUR SB-22 OR SB-22A SWITCHBOARD, BUT YOU **WON'T** FIND THEM.

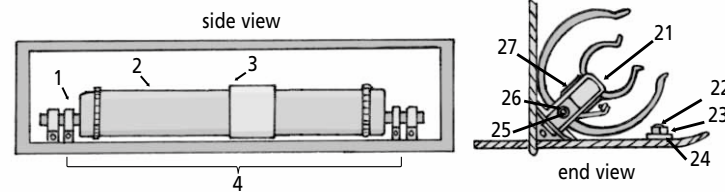


HERE'S THE INFO THAT WILL END YOUR SEARCH. IF THERE IS NO NSN, ORDER USING THE PART NUMBER AND CAGE CODE ON A DD FORM 1348-6. SEND YOUR REQUEST TO THE SOURCE OF SUPPLY, B16.

## SB-22 Battery Components

Item	CAGE	P/N	Name	NSN	Qty
1	80063	SC-B-84408	End cap assembly	5999-00-305-0008	2
2	80063	SC-B-84407	Battery case	6160-00-284-0249	2
3	80063	SC-B-84422	Center cap assembly	5999-00-636-8186	1
4	80063	SC-B-84406	Battery case assembly	6160-00-284-5223	1
5	80063	SC-B-84377	Retainer, battery assembly	6160-00-284-6243	1
6	80063	SC-B-84380	Battery clip	N/A	2
7	80063	SC-D-84379	Gusset	N/A	1
8	46384	CL-440-1	Nut, plain, clinch	5310-00-141-1813	5
9	96906	MS35245-9	Screw	N/A	4
10	72962	92-1660-26	Nut, self locking	5310-00-141-9364	4
11	80063	SC-B-84378	Gusset assembly	N/A	1
12	80063	SM-C-84384	Contact clip	5999-00-643-7687	4
13	96906	MS-35229-17	Screw	5305-00-206-3712	4
14	96906	MS-35333-87	Lockwasher	N/A	4
15	80063	SC-B-84383	Washer	N/A	4
16	80063	SC-B-84382	Insulator	N/A	4
17	80063	SC-B-84381	Base, molded	N/A	4
18	96906	MS-35215-10	Screw	5305-00-954-8118	4
19	80063	SC-B-84386	Terminal	N/A	4
20	80063	SC-B-84385	Terminal assembly	N/A	4
21	80063	SC-B-84382	Cable clamp	N/A	1
22	80063	102-356-5	Nut	5310-00-934-9747	5
23	80063	SC-D-84316-3	Lockwasher	N/A	5
24	80063	100-356-5	Screw	N/A	5
25	80063	104-3B-4A	Lockwasher	N/A	1
26	80063	100-5B4-3	Screw	N/A	1
27	80063	SC-B-84391	Sleeving	N/A	1

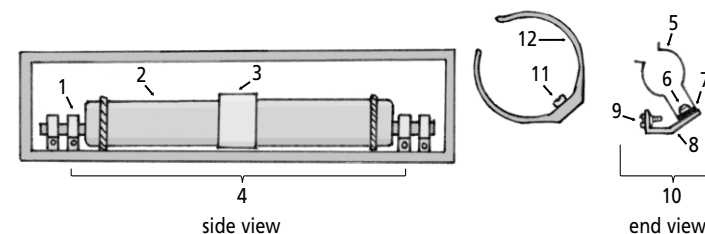
## SB-22 Battery Components



## SB-22A Battery Components

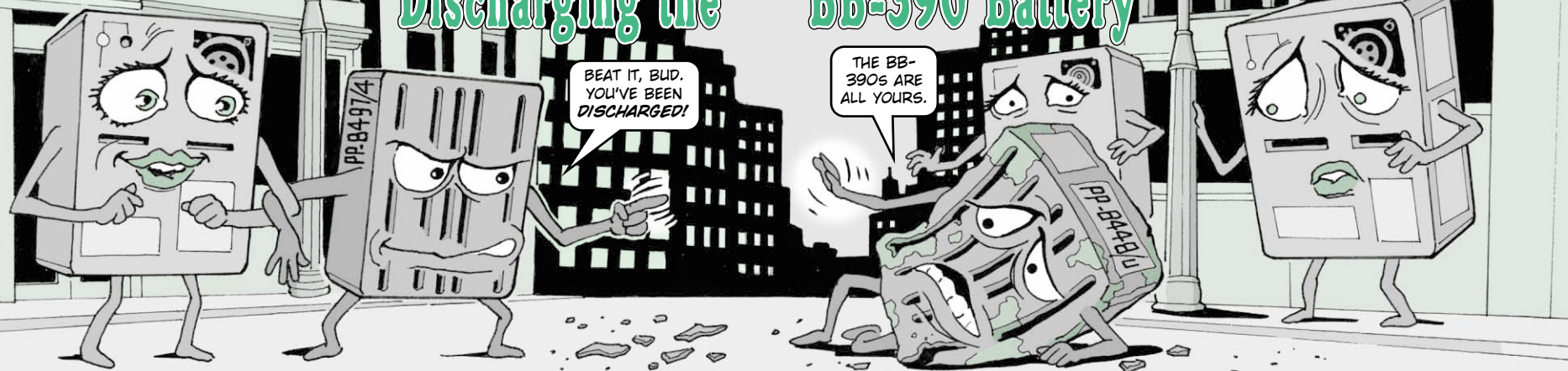
Item	CAGE	P/N	Name	NSN	Qty
1	80063	SC-B-84408	End cap assembly	5999-00-305-0008	2
2	80063	SC-B-84407	Battery case	6160-00-284-0249	2
3	80063	SC-B-84422	Center cap assembly	5999-00-636-8186	1
4	80063	SC-B-84406	Battery case assembly	6160-00-284-5223	1
5	80063	SC-C-84384	Contact clip battery clip	5999-00-643-7687	4
6	96906	MS35214-23	Screw	5305-00-059-8248	4
7	96906	MS35333-37	Lockwasher	5310-00-579-0079	4
8	80063	SC-B-84386	Terminal	N/A	4
9	96906	MS35215-10	Screw	5305-00-954-8118	4
10	80063	SC-B-84385	Terminal assembly	N/A	4
11	96906	MS35198-12	Screw	5605-00-151-1321	4
12	80063	SC-B-84380	Battery clip	N/A	2

## SB-22A Battery Components



# Discharging the

# BB-390 Battery



There is a new discharge device on the block for the BB-390 rechargeable battery. It's the self-discharge device (known as a discharge cap), PP-8497/U, NSN 6130-01-490-4310.

The PP-8497/U replaces the PP-8448/U, NSN 6130-01-430-3108, for use on the BB-390s.

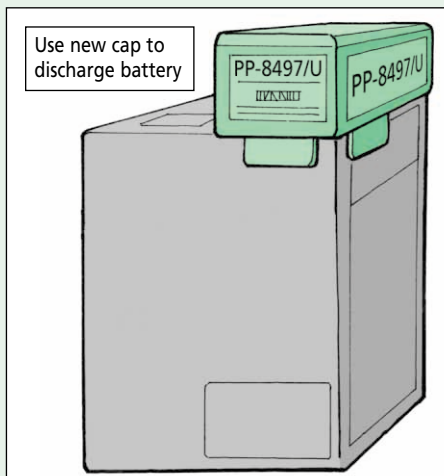
You will need one PP-8497/U for every five BB-390 batteries.

## Discharging

The cap will discharge the BB-390 without a power outlet. Discharge times will vary based on the BB-390's state of charge. A fully charged BB-390 takes 24 hours to discharge. Of course, if the state of charge is low from use, discharge times will drop.

Discharge every battery at least quarterly to ensure good running BB-390s.

If the date code on a new BB-390 is within 6 months of opening the box, then charge it and use it. If the date code is outside of six months, discharge the battery first and then recharge it before use.



## How to Discharge

Place the cap on the BB-390. If both LEDs light green, your battery is OK. Both 12-volt sections are discharging properly. The discharge will continue until the lights turn off. Then remove the cap and go on to the next battery.

If one or both LEDs do not light green, then the BB-390 may be bad. Remove the cap and go on to the next battery. (See web site shown below for servicing info.)

However, if needed, a battery with one good 12-volt section can be used for light garrison duties in SINCGARS or other items. You'll get half the run time. But don't issue it as a "front line" battery and do turn it in for replacement as soon as possible.

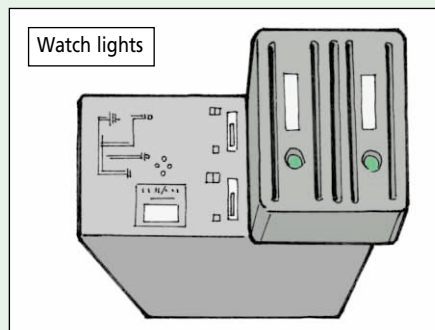
Any BB-390 with a 1998 or earlier date that fails the cap check should be turned in for a fresh battery.

## Quick Screening

To do a quick screen of your BB-390 stock prior to charging, place the discharge cap on the battery, ensure both LEDs are green, unplug the cap, and go to the next battery. In a few minutes you can determine a good battery from a bad one.

For further information, go to the rechargeable battery web site at:

<http://www.monmouth.army.mil/cecom/lrc/lrchq/power/rechargebat.html>



THERE'S A NEW  
KID IN TOWN  
AND HE'S A  
RECHARGEABLE!

# One for BA-5600/U Jobs



The BA-5600/U battery used in the AN/PSC-2 digital communications terminal and field artillery computers now has a rechargeable equivalent.

The lithium ion rechargeable battery, BB-2600/U, NSN 6140-01-467-5853, will do the job of the BA-5600/U.

This rechargeable will save you money in the long run and also help you meet the "rechargeable only" goals set up in DA Memorandum, DALO-SMR, 29 Aug 1997.

To recharge the BB-2600/U, you'll need battery charger, PP-8444A/U, NSN 6130-01-443-0970, and adapter, J-6521/P, NSN 5940-01-467-8813.

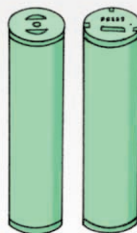
If you have questions about the new battery or about the rechargeable battery policy, e-mail CECOM at:

[donald.brockel@mail1.monmouth.army.mil](mailto:donald.brockel@mail1.monmouth.army.mil) or call DSN 992-4948 or (732) 532-4948.

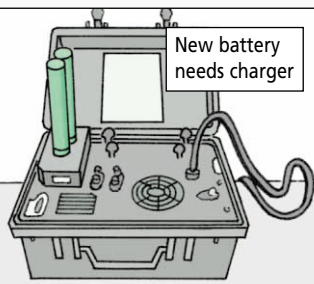
The rechargeable web site also has info on the new battery and the DA policy:

[www.monmouth.army.mil/cecom/lrc/lrchq/power/rechargebat.html](http://www.monmouth.army.mil/cecom/lrc/lrchq/power/rechargebat.html)

BB-2600/U  
will meet  
your  
rechargeable  
goals



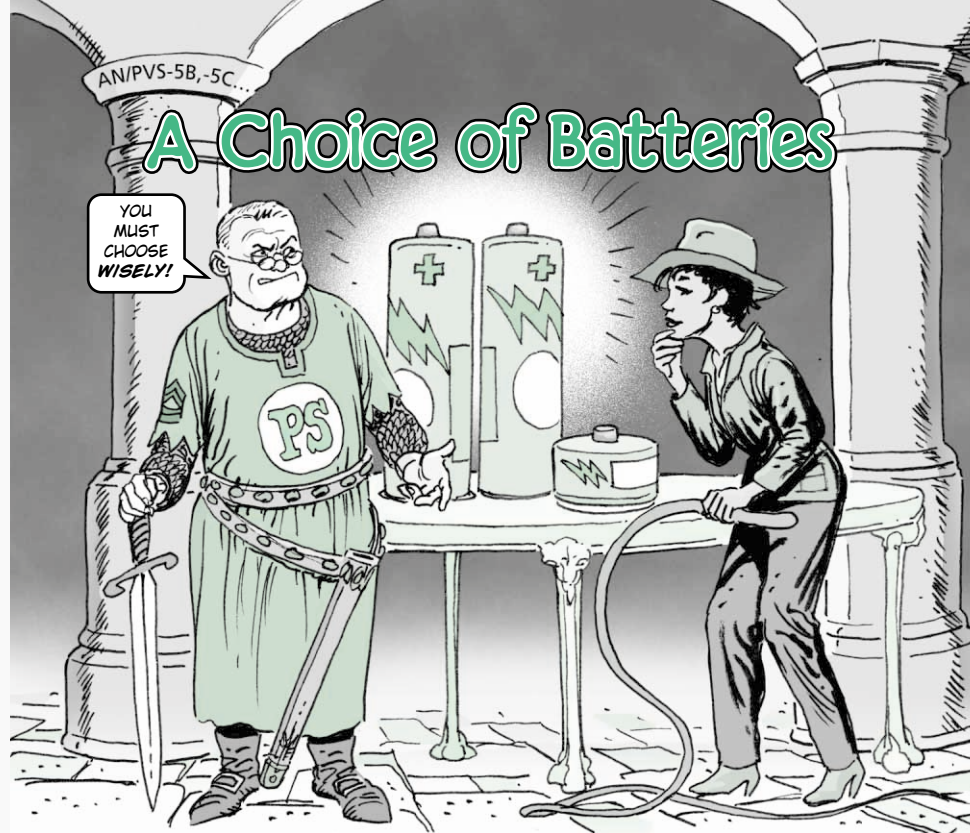
New battery  
needs charger



AN/PVS-5B, -5C...

# A Choice of Batteries

YOU  
MUST  
CHOOSE  
WISELY!



When it comes to putting batteries in your AN/PVS-5B or -5C night vision goggles, you have a choice. You can use one BA-5567/U lithium battery, NSN 6135-01-447-5082, or two AA alkaline batteries, NSN 6135-00-985-7845.

How do you make the choice?

For everyday use, go with the alkaline batteries. They cost much less than the lithium batteries.

But when temperatures drop below freezing, use the BA-5567/U. The alkaline batteries do not work as well in freezing weather.

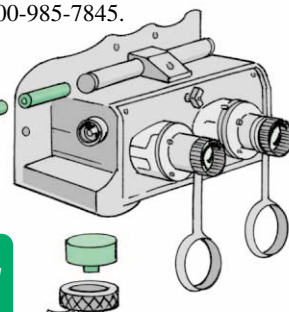
Don't have both types of batteries in your goggles at the same time. That drains battery power.

Use alkaline  
batteries...



...or...

...a  
BA-5567/U  
battery...



...but NEVER both at once

# PARTS TO HOLD DOWN



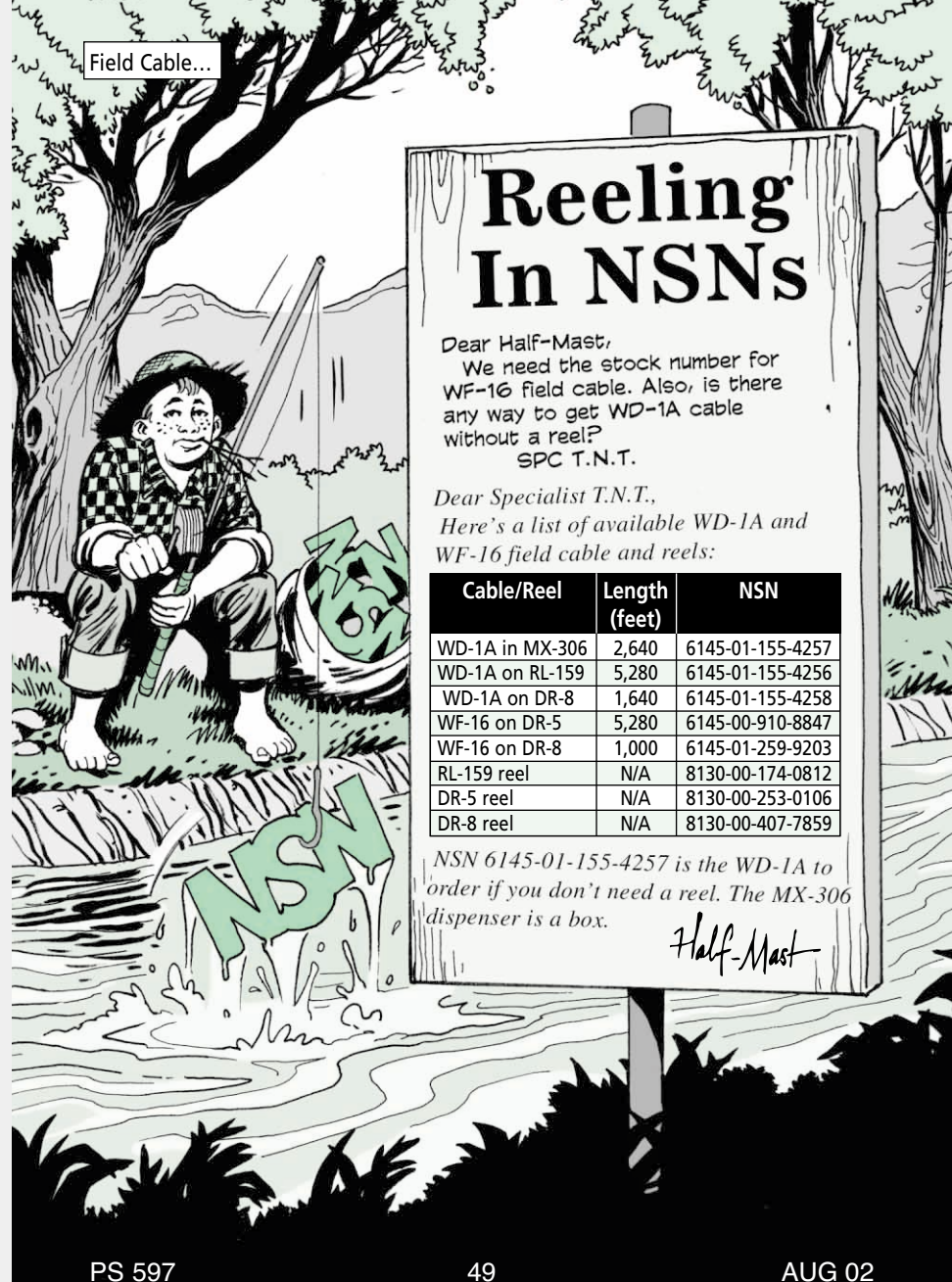
PARTS FOR YOUR  
S-280 COMMO  
SHELTER'S HOLDDOWN  
ASSEMBLY, NSN  
3940-00-805-5533,  
AREN'T LISTED IN ANY  
PUB. SO, USE THESE  
NSNs TO GET THE  
INDIVIDUAL PARTS  
YOU NEED...

Item	NSN or PN
Plate & eyebolt assembly consisting of:	5410-00-030-6925
Sleeve	4030-00-466-2575
Sleeve	4030-01-164-0205
Cable, 3/8-in dia	SC-C-595076-1
Plate	5340-01-344-6918
Eyebolt	SC-B-595075

Item	NSN or PN
Cable assembly, consisting of:	4010-01-351-1428
Safety hook assembly	4030-01-238-6957
Cable, 3/8-in dia	SC-D-36424-1
Sleeve	4030-00-445-6210
Turnbuckle	5340-01-174-8396
Thimble	4030-01-172-7126

Item	NSN or PN
Ring assembly consisting of:	17-1-5304
Ring, weldless	17-1-5304-1
Cable, 3/8-in dia	17-1-5304-2
Sleeve	4030-00-445-6210
Thimble	17-1-5304-4

Order the part number items from RIC B16  
on DD Form 1348-6 using CAGE Code 81337.



## Reeling In NSNs

Dear Half-Mast,

We need the stock number for  
WF-16 field cable. Also, is there  
any way to get WD-1A cable  
without a reel?

SPC T.N.T.

Dear Specialist T.N.T.,

Here's a list of available WD-1A and  
WF-16 field cable and reels:

Cable/Reel	Length (feet)	NSN
WD-1A in MX-306	2,640	6145-01-155-4257
WD-1A on RL-159	5,280	6145-01-155-4256
WD-1A on DR-8	1,640	6145-01-155-4258
WF-16 on DR-5	5,280	6145-00-910-8847
WF-16 on DR-8	1,000	6145-01-259-9203
RL-159 reel	N/A	8130-00-174-0812
DR-5 reel	N/A	8130-00-253-0106
DR-8 reel	N/A	8130-00-407-7859

NSN 6145-01-155-4257 is the WD-1A to  
order if you don't need a reel. The MX-306  
dispenser is a box.

Half-Mast

# Think Purity

# for True Testing



The M41 Protection Assessment Test System (PATS) will give you NBC NCOs a true test of your unit's masks if you remember the importance of purity. Just a bit of contamination can stop PATS fast.

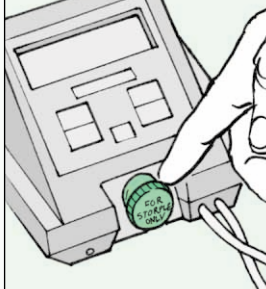
Purity begins with alcohol. Use only reagent grade isopropyl alcohol, NSN 6810-01-382-2904, in PATS. That's the purest alcohol available. Drugstore alcohol clogs the PATS optical system. That means a trip to repair.

Take off the storage cap only to install the alcohol cartridge. That keeps dirt out of the PATS that can cause problems. Don't let the cartridge touch anything before you screw it into PATS. If you must set the cartridge down, set it upright on its end so it won't get dirty. While the cartridge is in the PATS, put the storage cap on the alcohol fill capsule to keep dirt out of the capsule.

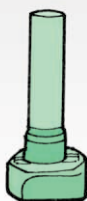
Use only  
reagent grade  
isopropyl alcohol  
for testing



Remove storage cap only  
to install alcohol cartridge



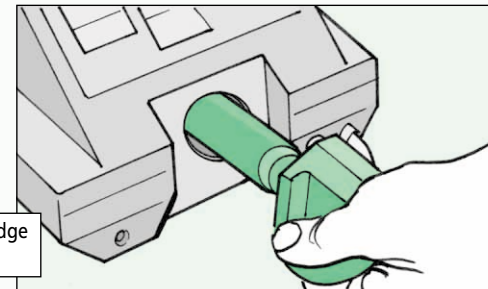
Set cartridge  
down on its end



Don't let it  
touch anything

When you're through testing, remember to remove the alcohol cartridge. If you leave it in, alcohol saturates the counting mechanism. Put the storage cap back on PATS to seal out dirt and moisture.

Pull out cartridge  
for shutdown



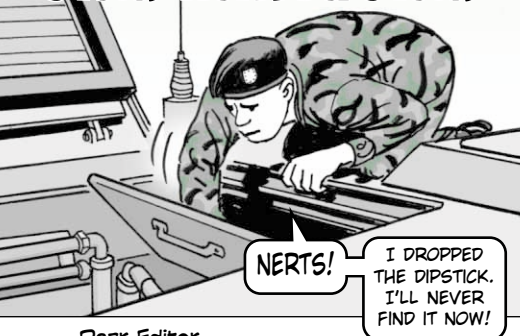
## Tubes

If the ends of the tubes get stretched too large for a good seal, just cut off  $\frac{1}{4}$  inch of the ends with a razor blade. But remember that the tube that connects to the mask must be 2 inches longer than the other tube.

Cut off  $\frac{1}{4}$  inch if tube end  
is stretched too large



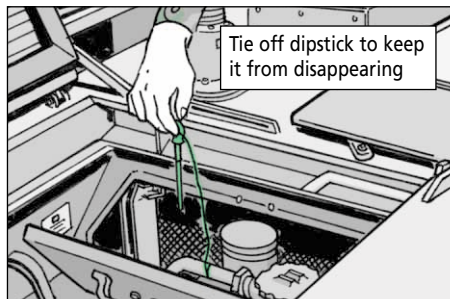
## STICK WITH DIPSTICK



Dear Editor,

You have to balance yourself on the Fox's roof while pulling out and reading the hydraulic reservoir dipstick. It's easy to drop the dipstick and if it falls on the floor of the engine compartment, you'll have a heck of a time retrieving it.

We stick with our dipsticks by tying them up. Just tie one end of a piece of twine through the hole in the dipstick handle and tie the other end to something near the reservoir, like a handle or line.



Then if you drop the dipstick, you can just reel it back in.

SGT Gregory Reader  
8th Chemical Co  
Ft Carson, CO

**From the desk  
of the Editor**

Hang onto this idea! Thanks.

52

## CAM Plan for Reserves/ Guard

Dear Editor,

I read in PS 591 (Feb 02) that you should run the chemical agent monitor (CAM) at least 30 minutes per week to avoid problems. That's makes a problem for Reserve and National Guard NBC NCOs, since they train only one weekend a month.

I suggest that Reserve and National Guard units list the CAM test on their monthly training schedule. That way they could run their CAMs Saturday through Sunday and then do the confidence test at the end of training on Sunday. The CAMs get a real workout, which will prevent problems later. Plus, troops will have an opportunity to train with CAMs every month.

CW2 Carlos Acevedo  
467th QM Bn  
Corpus Christi, TX

**From the desk  
of the Editor**

The best course of action is to run CAMs weekly for 30 minutes. Since that's not possible for most Reserve and Guard NBC NCOs, your suggestion is a good alternative. Thanks.

AUG 02

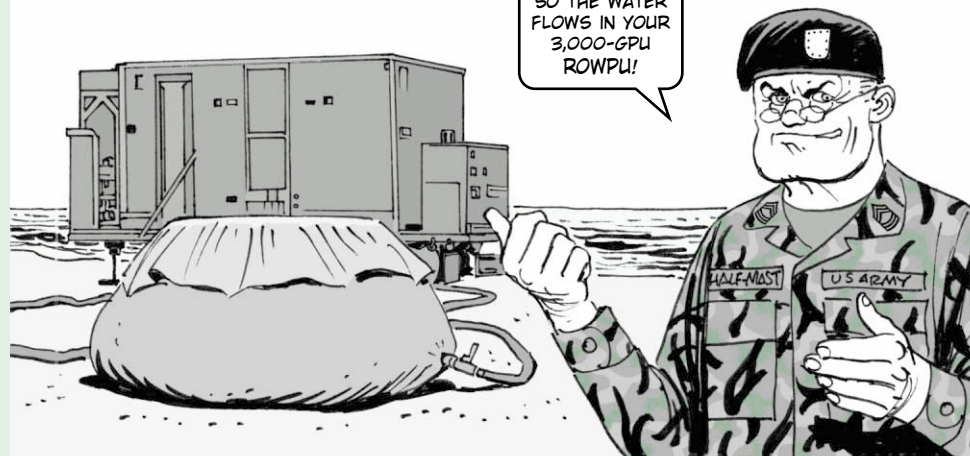
## HARD TO FIND REPAIR PARTS

Trying to find repair parts for the 3,000-GPH trailer-mounted ROWPU can be a real puzzler. That's because some old parts are no longer available or the parts info in the TM has changed.

Make a note of these changes in TM 10-4610-232-24P until there's a change or revision to the technical manual.

Item	Figure	NSN	Name
41	3	5340-01-468-4943	Plate, mounting
2	43	2540-01-468-5020	Latch, electrical panel door
96	67	5330-01-467-1605	Gasket, retainer in booster pump discharge assembly
13	69	4730-01-467-1526	Clamp, product water out
1	72	5340-01-468-4937	Clamp, basket retainer
4	80	4810-01-467-1589	Valve, solenoid assembly
4	81	4810-01-467-1591	Valve, solenoid assembly
17	83	5999-01-467-1685	Level switch
18	83	5999-01-467-1676	Level switch
19	83	5999-01-467-1683	Level switch
9	84	4730-01-467-1501	Clamp, multi-media tank
4	116	4730-01-468-5339	Elbow, waste out (AquaChem Models only)
33	BULK	5330-01-468-5373	Material, electrical panel seal

KEEP THESE  
NSNs HANDY  
SO THE WATER  
FLOWS IN YOUR  
3,000-GPH  
ROWPU!



PS 597

53

AUG 02

# RIVETING GOOD ADVICE



Dear Editor,

PS has run several good articles on the importance of using the exact bolt called for in the TMs when making repairs or reassembling equipment. If you use a low-grade bolt when a high-grade one is needed, you're flirting with disaster.

But you've never mentioned that the same holds true for rivets. If your TM calls for a certain *kind* of rivet, that's what you *must* use. Substituting a pop rivet for a solid rivet, for example, affects the structural strength of the equipment being repaired. That, too, could be disastrous, especially in the case of aircraft.

So always check the TM and *always* use the rivet called for.

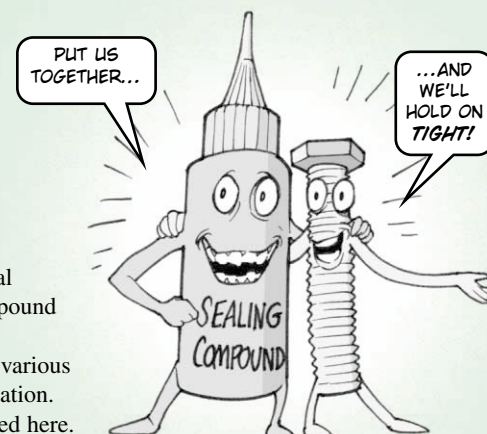
Daniel White  
Portland, OR

**From the desk of the Editor**  
Riveting good advice for repairmen. Thanks.

## Lock It Tight with Sealing Compound

Need something to lock and seal threaded fasteners? Sealing compound is just the ticket.

The compound is available in various strengths for virtually any application. Choose the type and size you need here.



NSN 8030-	Size	Typical Use	Color	Breaking Torque (lb-in)	Holding Torque (lb-in)	Initial Set (minutes)
01-054-3968	Ten 10-cc bottles	Small screws under 3/4-in	Purple	53	30	20
01-069-3046	50 10-cc bottles	Small screws under 3/4-in	Purple	53	30	20
01-104-5392	Ten 10-cc bottles	Up to 3/4-in bolts (removable lock)	Blue	115	53	10
01-014-5869	50 10-cc bottles	Up to 3/4-in bolts (removable lock)	Blue	115	53	10
01-025-1692	250-cc bottle	Up to 3/4-in bolts (removable lock)	Blue	115	53	10
01-142-9830	50-cc bottle	Up to 3/4-in bolts (removable lock)	Red	190	275	20
01-171-7628	250-cc bottle	Up to 3/4-in bolts (removable lock)	Red	190	275	20
01-142-3131	50-cc bottle	High temperature applications	Red	200	220	30
00-111-2763	Ten 10-cc bottles	Wicking grade for preassembled parts	Green	85	250	20
00-111-2762	50-cc bottle	Wicking grade for preassembled parts	Green	85	250	20
01-050-8288	250-cc bottle	Wicking grade for preassembled parts	Green	85	250	20
01-390-7555	20-gram bottle	Small plastic fasteners	Blue	5	4	2
01-296-3856*	1-lb bottle	Small plastic fasteners	Blue	5	4	2

\*Order on a DD Form 1348-6 and put "NSN not on AMDF" in the REMARKS block.



IF YOU'RE STILL ORDERING P-D-680 DEGREASING SOLVENT TO CLEAN YOUR TACOM-MANAGED EQUIPMENT, **STOP!**



All P-D-680 solvents, except for Type III, have been labeled as toxic substances, flammable material, hazardous waste and air pollutants. Even Type III generates some environmental concerns.

P-D-680 has been replaced by a new degreasing solvent, MIL-PRF-680. The new solvent is non-toxic, recyclable, and not listed as a hazardous waste with the EPA. It also performs just as well as the old P-D-680 solvent.

You can continue to use any stock of P-D-680 you have on hand if local environmental laws allow. But once that stock is depleted, order the new MIL-PRF-680 that replaces your P-D-680 with these NSNs:

Type	MIL-PRF-680, NSN 6850-01-	Size	P-D-680, NSN 6850-
I	474-2302	1-gal	00-281-1985
I	474-2309	5-gal	00-264-9038
I	474-2313	55-gal	00-285-8012
II	474-2319	1-gal	00-637-6135
II	474-2317	5-gal	00-274-5421
II	474-2316	55-gal	00-285-8011
III	474-2318	1-gal	01-377-1809
III	474-2320	5-gal	01-331-3349
III	474-2321	55-gal	01-331-3350
IV	472-2723	1-pt	N/A*
IV	472-2721	1-qt	N/A*
IV	472-2722	1-gal	N/A*
IV	472-2717	5-gal	N/A*
IV	472-2719	55-gal	N/A*

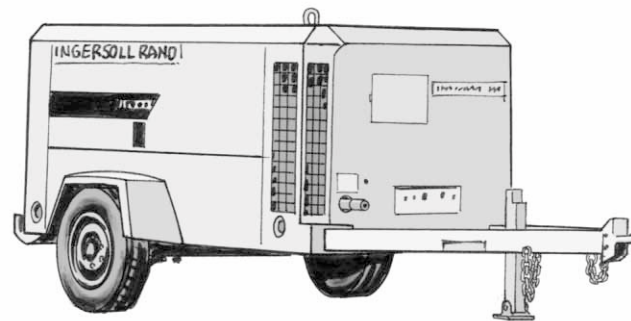
\*There is no Type IV version of P-D-680.

It will take some time to change all the TACOM TMs that list P-D-680 in their expendable/durable supplies and material lists, so pencil in the new NSNs yourself.

The complete word's in TACOM Technical Advisory Message 101. You can access the message on the US Army Petroleum Center's website at:

<http://usapc.army.mil/messages/tav101.htm>

## 250-CFM COMPRESSOR WHEEL CYLINDERS



**N**SN 2530-00-920-8511 gets the right-hand wheel cylinder on the trailer for the Ingersoll-Rand 250-CFM air compressor. Order NSN 2530-00-872-9301 for the left-hand cylinder. The NSNs listed in Fig 52 of TM 5-4310-452-24P get the wrong wheel cylinders.

# HELP AVAILABLE BEFORE YOU GO



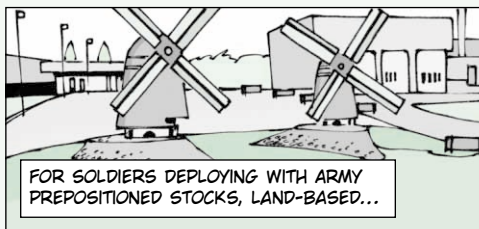
IT SURE HELPED USING THE ABS BEFORE LEAVING ON DEPLOYMENT!

YOU USED THE ABS? I USED THE DAVS.

GOING ON A DEPLOYMENT? DON'T KNOW WHAT "TO ACCOMPANY TROOPS" EQUIPMENT TO TAKE?

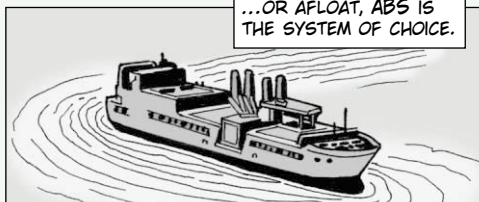


USING THE AUTOMATED BATTLEBOOK SYSTEM (ABS) AND THE DEPLOYMENT ASSET VISIBILITY SYSTEM (DAVS), THE WARFIGHTER CAN OVERCOME THE CONFUSION.



FOR SOLDIERS DEPLOYING WITH ARMY PREPOSITIONED STOCKS, LAND-BASED...

...OR AFLOAT, ABS IS THE SYSTEM OF CHOICE.



FOR SOLDIERS DEPLOYING TO BOSNIA OR KOSOVO, DAVS IS AVAILABLE.

BOTH ARE LOGISTICS PLANNING TOOLS TO ASSIST THE WARFIGHTER IN EVALUATING WHAT EQUIPMENT IS AVAILABLE IN PREPOSITIONED STOCKS.

BOTH ABS AND DAVS COMPARE THE UNIT PROPERTY BOOK EQUIPMENT TO THE PREPOSITIONED INVENTORY TO QUICKLY SHOW:

- ★ **WHAT IS AVAILABLE**
- ★ **WHAT A UNIT NEEDS TO BRING**
- ★ **WHAT SHORTAGES NEED TO BE FILLED**

EQUIPMENT LISTS FOR REPAIR PARTS, SETS, KITS AND OUTFITS (SKOS) AND BASIC ISSUE ITEMS (BII) ARE ALL INCLUDED IN ABS.



BOTH ABS AND DAVS INCLUDE FIELD MANUALS, CHECKLISTS AND A TEXT LIBRARY FOR UNIT DEPLOYMENTS.



ABS AND DAVS MOBILE TRAINING TEAMS ARE AVAILABLE FOR DEPLOYING UNITS ON REQUEST AND ARE FULLY FUNDED BY FORSCOM.

ABS CD-ROM INFO IS ACCESSIBLE AT <http://www.battlebooks.com> OR BY E-MAIL AT [abshelp@stanleyassociates.com](mailto:abshelp@stanleyassociates.com) THE ABS WEB SITE, **BATTLEWEB**, IS LOCATED AT <https://aeps.ria.army.mil>

YOU'LL NEED A **PASSWORD** BEFORE YOU CAN ACCESS THE SITE.



DAVS CD-ROM INFORMATION IS AVAILABLE VIA E-MAIL AT [davshelp@stanleyassociates.com](mailto:davshelp@stanleyassociates.com).

FOR PLANNING ASSISTANCE OR TO SCHEDULE TRAINING, CALL THE FORSCOM POWER PROJECTION LOGISTICS DIVISION, PLANS AND OPERATIONS BRANCH, AT DSN 367-7090, (404) 464-7090.

FOR MORE INFORMATION ON ABS OR DAVS, CONTACT AMC'S LOGISTICS MANAGEMENT SPECIALIST AT DSN 793-5739, (309) 782-5739.



# 2001 MAINTENANCE EXCELLENCE AWARDS

I WANT TO  
ACCEPT THIS  
AWARD ON BEHALF  
OF MAINTENANCE-  
MINDED UNITS ALL  
OVER THE WORLD!



## ACTIVE ARMY MTOE ORGANIZATIONS

### SMALL CATEGORY

Winner: A Co, 201st FSB (USAREUR)

Runner-up: HHC, 8th MP Bde (EUSA)

### MEDIUM CATEGORY

Winner: 71st Ord Co (USAREUR)

Runner-up: C Co, 63d Sig Bn (FORSCOM)

### LARGE CATEGORY

Winner: 6th Bn, 32d FA (FORSCOM)

Runner-up: 112th Sig Bn (USASOC)

## TDA UNITS

### SMALL CATEGORY

Winner: Ground Mobility Division, 1st Bn, 81st Armor (TRADOC)

Runner-up: Maintenance Activity Vilseck, General Support Center-Europe (USAREUR)

### MEDIUM CATEGORY

Winner: 52nd Sig Bn, Stuttgart, GE (FORSCOM)

Runner-up: 58th Trans Bn (TRADOC)

### LARGE CATEGORY

Winner: 3d Bn, 6th ADA (TRADOC)

Runner-up: 41st Sig Bn, Camp Coiner, Korea (FORSCOM)

## ARMY RESERVE MTOE UNITS

### SMALL CATEGORY

None

### MEDIUM CATEGORY

Winner: 353d Trans Co (FORSCOM)

Runner-up: 261st Ord Co (FORSCOM)

### LARGE CATEGORY

Winner: HHC, 311th COSCOM (FORSCOM)

Runner-up: HHC, 478th Engr Bn (FORSCOM)

## ARMY NATIONAL GUARD MTOE UNITS

### SMALL CATEGORY

Winner: HHD, 232d CSB (Springfield, IL)

Runner-up: C Co, 128th FSB (Pittsburgh, PA)

### MEDIUM CATEGORY

Winner: 152d Maint Co (Augusta, ME)

Runner-up: 1454th Trans Co (Concord, NC)

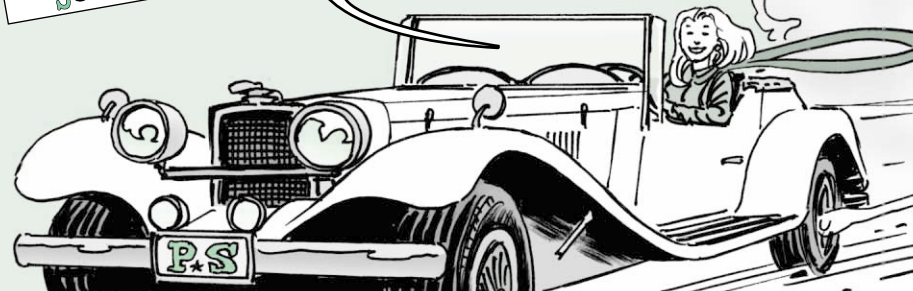
### LARGE CATEGORY

Winner: 232d CSB (Springfield, IL)

Runner-up: 1088th Engr Bn (Plaquemine, LA)



TO KEEP  
ROLLING, YOU  
MUST DO  
GOOD PM!



## PREMIXED TIRE LUBE

Make tire mounting easier with premixed tire lube. It's slick stuff, plus it doesn't deteriorate rubber like oil and grease do. Here's what is available:

1 qt	NSN 2640-00-256-5526
1 gal	NSN 2640-00-256-5527
1 case	NSN 2640-00-256-5529 (five 1-gal cans)

## Steel HMMWV Alternator Bracket

Yes, Virginia, there is a Santa Claus—and a replacement for that old aluminum mounting bracket for 60-amp and 100-amp alternators used on HMMWVs. Make broken brackets a thing of the past with steel bracket, NSN 5340-01-448-4245.

## ABRAMS TANK SAFETY VIDEOS

Expand your knowledge of how to inspect and care for your tank's NBC system by ordering the video, *The NBC Protection System for the M1A1 and M1A2 Abram Tank* (PIN 711046). A second safety video, *Safe Operation of the Abrams Main Battle Tank* (PIN 710884), is also helpful. Just go to:

<http://dodimagery.afis.osd.mil/dodimagery/davis/> and click on PIN/ICN Search in the left-hand column. Enter the PIN for the film you want, click on Search, and follow the instructions. If you don't have Internet access, order the films by calling Louise Roscioli of the Defense Visual Information Library at DSN 795-7937 or (717) 895-7937.

## Welder Added to SECM SC

Ready Welder II, NSN 5130-01-482-1692, has been added to SC 4940-95-829, the supply catalog for shop equipment, contact maintenance (SECM), NSN 4940-01-333-8471. If you're authorized the shop set, you can order the welder with the authorization of your commander. To get welder repair parts and things like nozzles and tips, you will need to order them directly from the manufacturer. They won't be covered by the SC. Contact Ready Welder at (800) 935-3644. Their CAGE is 1SUS3.

DISTRIBUTION: To be distributed in accordance with the initial distribution number (IDN) 340312, requirements for TB 43-PS-Series.

Would You Stake Your Life <sup>right now</sup> on  
the Condition of Your Equipment?